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DECEMBER 3RD–9TH 2022

CHINA'S COVID FAILURE



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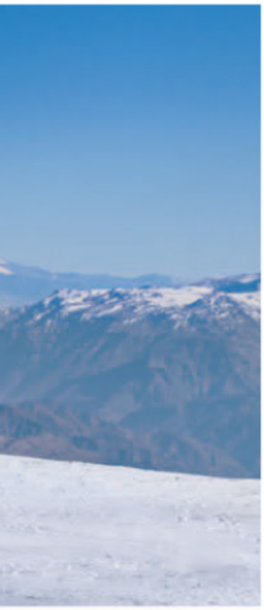

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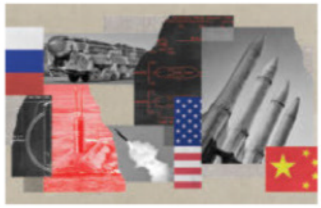
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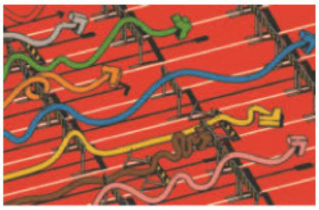
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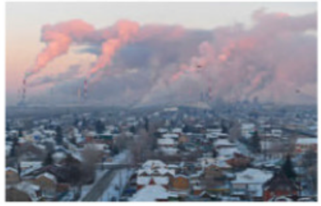
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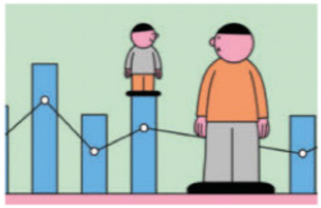
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"I've learned not to take time for granted. What drives me is knowing that the clock is ticking."



China's government was confronted with the boldest show of civil disobedience in decades. The unrest began after a deadly fire in Xinjiang. Many Chinese blamed covid-19 restrictions for making it harder for victims to escape a blazing apartment block. Protests against the controls erupted in several cities. Some protesters risked jail by calling for Xi Jinping and the Communist Party to relinquish power. Extra police curbed the unrest in most cities. As the coronavirus spread rapidly in China, officials said lockdowns should be "imposed and eased quickly". Efforts to vaccinate old people, long neglected, were stepped up. Mr Xi remained silent throughout.

Jiang Zemin, the leader of China's Communist Party from 1989 to 2002, died. Mr Jiang oversaw a wave of economic opening, but not much political reform. His colourful personality spiced up diplomatic events. In his later years he became something of a folk hero for younger Chinese, who made him the subject of viral internet memes.

A fresh wave of attacks left much of Kyiv without power and water again. Although **Ukrainian** engineers swiftly repaired much of the damage, rolling blackouts are still affecting most of the capital as energy companies struggle to ration supplies. A meeting of NATO foreign ministers pledged more help to fix infrastructure. Many more generators, and fuel to power them, will be needed.

Turkey's foreign minister said that Finland and Sweden must do more to stifle Kurdish propaganda emanating from their territory if Turkey is to support their membership of **NATO**. Hungary, the other holdout, has said it will ratify Finland's and Sweden's membership early next year.

Foul play?

The foreign minister of **Belarus** died suddenly. Vladimir Makei, 64, was rated by Westerners as one of the more approachable members of the Belarusian regime, though he backed the crushing of democratic opposition to it. He also brazenly denied that Belarus was an accomplice to Russia's invasion of Ukraine, which was partly launched from Belarusian territory.

Protests persisted in **Iran**. The UN Human Rights Council voted to set up an investigation. Its rapporteur criticised Iran's "campaign" of sentencing protesters to death. Four Iranians were condemned to die, supposedly for spying for Israel. Another was reportedly shot dead. Like many dissidents, he was celebrating Iran's elimination from the football World Cup.

A report said **South Africa's** president, Cyril Ramaphosa, might have broken the law by not reporting cash kept in his game ranch, which came to light after unknown thieves stole it. Parliament will have to decide whether to impeach him. Mr Ramaphosa had been trying, often ineffectually, to clean up corruption. The pro-corruption wing of his party would love to oust him.

At least 14 people were killed when security forces ended a siege at a hotel in Mogadishu, **Somalia's** capital, involving jihadists from al-Shabab, a rebel group.

Officials in the **Central African Republic** complained that a camp full of Russian mercenaries had been bombed. The Wagner Group, run by a pal of Vladimir Putin, has been helping the CAR's government, which has a lot of precious minerals. The officials said the aircraft that bombed the camp flew back "to the north", meaning to Chad, which has awful relations with the CAR.

The prime minister of the island state of **São Tomé and Príncipe**, the second-smallest member of the African Union by population, said there had been a coup attempt against his government. He released a video message to "reassure" the people that it had failed.

Two members of the Oath Keepers, a far-right group, were found guilty of **seditious conspiracy** in relation to the storming of America's Congress on January 6th 2021. They had helped organise the mob that tried to stop Joe Biden from being confirmed as president, after Donald Trump falsely claimed that his election was fraudulent.



Hakeem Jeffries was elected by **Democrats** in the House of Representatives to be their leader, following Nancy Pelosi's decision to step down. He is the first black person to lead a party in Congress.

The American Senate passed a bill confirming the right of **gay couples** to marry. The bill, passed with support from some Republicans, would render moot any hypothetical future challenge to the Supreme Court ruling in 2015 that made same-sex marriage legal everywhere in the United States. It is expected to become law this month.

In **Japan** a court upheld a ban on gay marriage, but offered hope to same-sex couples by also finding that the lack of laws to protect their families violated their rights. **Singapore's** parliament decriminalised gay sex, but tightened the law defining marriage as between a man and a woman.

Protesters from a Christian fishing village in **India's** state of Kerala clashed with police as they tried to stop construction of a new port. The villagers say the port will ruin their livelihoods. Hindu nationalists blame a church for the protests and have marched in support of the project.

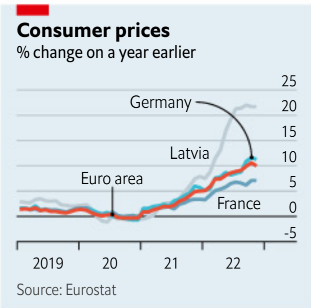
A suicide-bomber rammed a police vehicle escorting a polio-vaccination team in **Pakistan**, killing four people. Islamic militants have long targeted vaccination workers, falsely claiming that they are sterilising Muslims. Pakistan and Afghanistan are the only two countries where polio, which paralyses children, is still endemic.

Joe Biden started to lift American sanctions on **Venezuela**. Chevron, an American oil giant, was granted a limited licence to start pumping and exporting oil to the United States. In exchange Nicolás Maduro's autocratic regime agreed to resume talks with the opposition. America has warned that it will restore sanctions if Mr Maduro reneges on the deal.

Thousands of **Mexicans** rallied in support of Andrés Manuel López Obrador, the president. Many allegedly arrived on buses paid for with public money. Mr López Obrador had called for the march in response to a recent big protest by Mexicans who say he is trying to undermine the electoral system.

It hasn't gone away

The annual World AIDS Day was a reminder that, despite much progress, 650,000 people a year die because of **HIV infections**. The latest weapons, prophylactic drugs, are now being rolled out, but 1.5m people a year are still being infected.



Annual **inflation in the euro zone** fell in November, to 10%. Energy prices also eased a little, as Europe's mild autumn suppressed the demand for heating, dampening the wholesale market for natural-gas. Those prices have started to rise again, as colder weather settles in. The average inflation figure masked regional variations. Inflation in Estonia, Latvia and Lithuania is above 21%. In Germany it is 11.3%, though that is also down on October. In Finland inflation jumped, to 9%.

The bigger-than-expected fall in inflation sparked speculation about the European Central Bank's next move on **interest rates**. Before the latest data came out, Christine Lagarde, the ECB's president, said that the bank "is not done" raising rates. It meets on December 15th.

In America Jerome Powell, chairman of the **Federal Reserve**, gave a hawkish speech on the fight against inflation, but also suggested that the central bank will moderate the pace of rate increases when it next meets, on December 14th. Stockmarkets soared.

China's manufacturing purchasing managers' index fell again in November, to 48, suggesting a deeper contraction in factory activity (above 50 indicates growth). Factory output has been curtailed by lockdowns and associated protests. The workers' revolt at the **Foxconn** plant in Zhengzhou, which assembles the iPhone and other devices, could well affect Apple's revenues, and break a run of 14 successive quarters in which sales have grown, year on year.

JD.com is reportedly slashing the salaries of 2,000 executives as it pivots to a period of slower growth. The Chinese e-commerce giant wants to improve conditions for its lowest-paid workers, following rumblings from the government about tech companies not doing enough to tackle inequality.

Lady Luck at last smiled on the operators of **Macau's big casinos**, when the Chinese territory's government agreed to extend their licences to operate for ten years. Battered by covid restrictions and the Chinese government's increasing antipathy towards gambling, the casinos, some of which are run by American firms, such as Sands, are betting that the new licences will provide stability for investors. Their share prices jumped after the announcement.

Flying green class

Rolls-Royce carried out the world's first ground test of an aircraft engine that has been converted to run on **green hydrogen** created by wind and tidal power. Hydrogen-powered planes can help the aviation industry cut its emissions, although passenger-carrying jets are still years away from entering service. Airbus, which has been aiming to introduce a hydrogen plane by 2035, warned this week that a lack of green hydrogen and associated infrastructure could delay its project.

EasyJet published results, and said that the summer months had been a "record bounce back" from the covid era. The European airline reported that bookings for holidays over this winter were back to normal, and predicted that it will increase seat capacity from April to September next year.

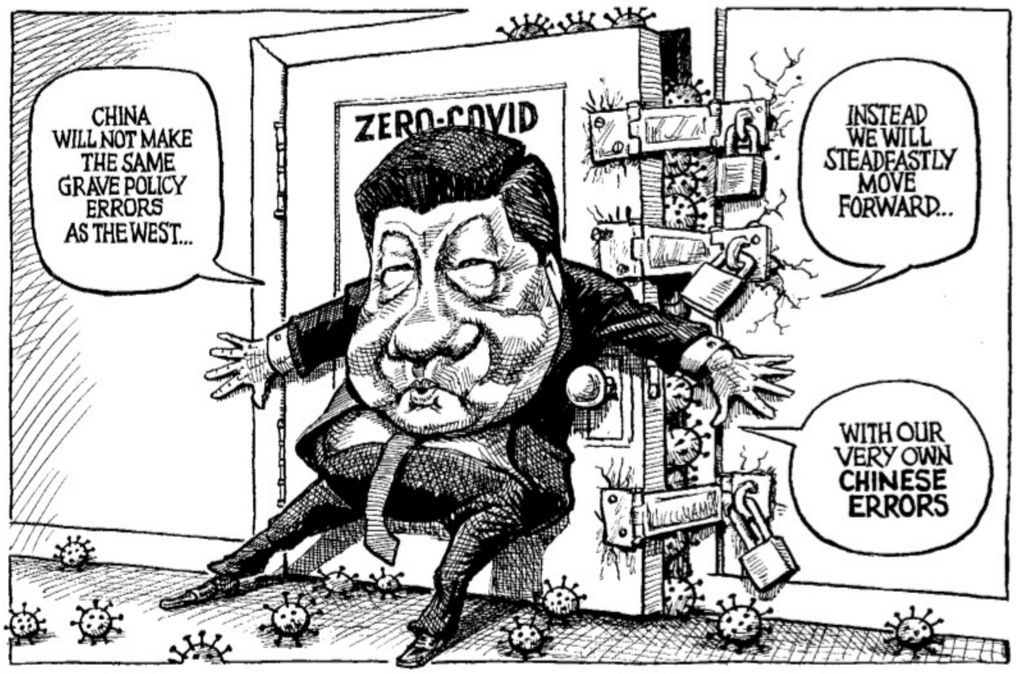
The collapse of FTX continued to reverberate around the world of cryptocurrency. **BlockFi**, a platform offering a range of crypto services, filed for bankruptcy protection citing its "significant exposure" to FTX through reciprocal loans and credit agreements. **Genesis**, a cryptocurrency brokerage, was reportedly trying to avoid bankruptcy.

HSBC agreed to sell its business in Canada to **Royal Bank of Canada**, the country's largest lender, for C$13.5bn ($10bn). It is Canada's biggest-ever deal in banking. HSBC is under pressure from Ping An, a Chinese insurer and its largest shareholder, to focus entirely on its Asian business in order to boost its stock. It is also closing a quarter of its branches in Britain, its home country.

Almost 197m Americans shopped over the **Thanksgiving weekend**, according to the National Retail Federation, more than even pre-pandemic levels. More people shopped online than in store, although visits to bricks-and-mortar outlets grew by 17%, year on year, a sign that consumers are settling back into pre-covid behaviour. Retailers pray that the rest of the Christmas season will be as jolly, and that shoppers haven't just brought forward their spending.

Vive les misérables

A French court has decided that a consultant who was sacked for not being "fun" and avoiding **work events** had been wrongfully dismissed. "Mr T", as he is named in documents, was entitled to "freedom of expression" by not participating in social activities, said the court. Mr T claimed that he felt humiliated by his colleagues' exploits, which included binge drinking and "mock sexual acts". The ruling is good news for office workers dreading the start of the Christmas party season.



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China's covid failure

Caught between raging disease and unpopular and costly lockdowns, Xi Jinping has no good fix

CHINA INVENTED covid-19 lockdowns. During the first weeks of the pandemic, the government of Xi Jinping corralled tens of millions of people to stop the disease spreading out of Wuhan. Almost three years later, lockdowns have become China's undoing. A combination of protests and rising cases means that Mr Xi will have to navigate between mass lockdowns and mass infection—and possibly end up with both. The coming months will pose the biggest threat to his rule since he came to power in 2012 and the biggest threat to the authority of the Communist Party since the protests around Tiananmen Square in 1989.

Sporadic local pickets are common in China. But demonstrations erupted across the country after at least ten people died in a fire in Urumqi, capital of Xinjiang, where residents were allegedly sealed in a building because of covid. Last weekend in Beijing protesters called for "freedom"; in Shanghai they demanded that Mr Xi step down. The crowds were small, but in a place as heavily policed as China it is remarkable they ever formed.

If demonstrators were the only opposition, the security forces could restore order. But Mr Xi also faces an implacable virus. To grasp the political and economic turmoil that lies ahead, you need first to understand how China's epidemic has gone wrong.

One problem is hubris. The zero-covid policy started as a stunning success, by sparing millions of Chinese lives. At first, less disease also meant less economic harm. For the past three years, most Chinese have got on with things. Month after month, state media trumpeted that this proves Mr Xi and the party are competent and humane, unlike decadent Western politicians presiding over mass death.



These words have now turned to ash. Mr Xi's policies have left China ill-protected against an endemic virus that is becoming harder to control. Almost 90% of the population has had two jabs. But our modelling, based on predictions of the rate at which people become infected and recover or die, suggests that, if the virus spread unencumbered, infections would peak at 45m a day (see Briefing). Around 680,000 people would die, even if vaccines remained potent and all of them received care. In reality vaccines wane and many would go untreated. The need for intensive-care beds would reach 410,000, almost seven times China's capacity.

Many of these fatalities would be the result of Mr Xi's policy. Only 40% of the over-80s have had three covid shots, needed to prevent serious disease and death. Because a healthy 80-year-old is over 100 times more likely to die from covid than a healthy 20-year-old, that is a catastrophic mistake. The party is willing to lock down millions for weeks on end, but it has failed to deal with vaccine scepticism among the elderly. The government initially licensed vaccines for the under-60s only. It cast doubt on the safety of foreign vaccines while promoting traditional medicine. And it failed to incentivise local officials to put jabs first.

Unless China changes course, its resilience to covid will fade. The latest subvariants are more infectious than Omicron, which is more infectious than Delta. Protection from serious disease and death decays much faster in those who have only been vaccinated than it does in those who have been infected as well. Regardless, China has not yet staged a campaign for a fourth shot. If booster coverage were 90% and 90% of cases had the best antiviral treatment, our model says that deaths would fall to 68,000, even if the virus were free to spread.

In a world with plenty of vaccines and antivirals, the benefits of Mr Xi's zero-covid policy are no longer accruing, even as the economic and social costs continue to mount. The number of domestic flights in China is down by 45% year on year, road freight is 33% lower and traffic on city metros has fallen by 32%. Urban youth unemployment is almost 18%, nearly double what it was in 2018. In contrast with the last peak of infections in the spring, restrictions are currently in place in all the big cities. Some places have been locked down on and off for months. Little wonder people have taken to the streets.

And so Mr Xi faces a dilemma: to keep the disease in check has become socially and economically costly, but to lighten the burden risks causing an epidemic. Worse, the stable middle ground between runaway disease and intolerable lockdowns appears to be shrinking, if it exists at all. On November 19th, barely a week after the government tried to ease up by announcing 20 less stringent control measures, Gavekal, a research group that tracks China city by city, detected a sharp increase in restrictions as infections took hold across the country.

The implications go wider than covid (see China section). By making the zero-covid policy into a test of loyalty, Mr Xi has turned a health crisis into a political one. By imposing the daily apparatus of detection and enforcement, he has cut against the idea that his covid policy puts "people first" and instead brought an unbending authoritarian state into every home. By sticking with zero-covid despite the effects on the economy, he has cast doubt on one of the party's chief claims to power—that only it can guarantee stability and prosperity.

This test of Mr Xi's leadership comes at a bad time. Winter is when respiratory diseases like covid spread most easily. As Chinese viewers of the World Cup noticed before the censors got to work, they are locked down when other countries are free and maskless. As the world looks on, the failure of zero-covid is not only a life-threatening error, but also an embarrassment.

Mr Xi has no easy path out of the epidemic. The party has rightly said it will strive to vaccinate the elderly. But administering the vaccine and procuring antivirals could take months. Lockdowns will be harsh and even then the disease may break out. In the best scenario China will experience an exit wave of deaths and disease, and economic disruption.

How Mr Xi handles these trade-offs will define him. Nobody knows how much Chinese people blame him and the central government for what has gone wrong, or whether the system of surveillance and control that the party has laboured to create is able to withstand mass dissent. And nobody can be sure how much China's increasing nationalism ensures loyalty towards the Communist Party. During his first ten years in power Mr Xi exerted increasing control over politics and the economy without paying a price. Covid throws all of that into doubt. ■

Oil prices

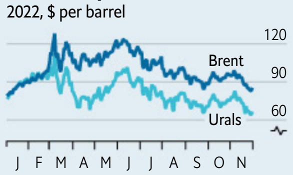
Will the cap fit?

Why the West's proposed price cap on Russian oil is no magic weapon

Nine months after the invasion of Ukraine, oil money continues to fill Vladimir Putin's war chest. Even as the West has imposed sanctions, Russia's crude exports have held up and the Urals oil price remains close to its average in 2014-20. Russia's current-account surplus this year is expected to be $265bn, second only to China's. But the story is not over yet. On December 5th the European Union will at last implement a plan originally cooked up in May. It will ban seaborne imports of Russian oil. It will also prohibit European firms from insuring, shipping or trading Russian crude anywhere in the world—unless the oil is sold at a price below a cap set by the West.

Ever since the war began in February this year, the West has grappled with a conundrum. How should it cut Russia's fossil-fuel earnings without also reducing the global supply of oil and fuelling inflation that hurts consumers around the world? When Europe first dreamed up its ban, it threatened to deal a serious blow to Russia's oil cashflows. European insurers and shipping firms have long had a vice-like hold on energy markets. Fully 95% of property and indemnity insurance for all oil tankers has been handled by firms from Britain and the EU. This appeared to be a lever with which the West could control the sale of Russian oil globally.

Crude-oil prices
2022, $ per barrel



Yet even as the ban was announced a flaw was apparent. If Russian oil fails to make it to market, then global oil prices may spike, hurting Western consumers. Hence America's Treasury department has since devised a cunning plan to water it down: to let European firms continue to offer their services, provided the oil involved is bought at a suppressed price set by the West.

On paper, this looks astute. Setting the price below the market rate Russia receives today would lower its earnings. And as long as the price is above its cost of production (which is thought to be in the region of $20-44 a barrel), Mr Putin would still have a reason to pump oil. Consumers would get oil at a discount and inflation would be kept in check. Non-aligned countries such as China and India would surely leap at this bargain.

According to hard-headed oilmen, however, life rarely turns out so neatly. There are two uncertainties. One is how Mr Putin responds if European firms really do have a stranglehold and can block his ability to get some oil to market. Russia has already said it will refuse to use tankers that join the oil-cap scheme. It could cut its oil exports, relying on a smaller group of non-Western tankers and insurers, and sending global prices spiralling.

Fear of this could explain why the West has been careful to peg the oil price at a level that is still attractive to Russia. At the time of writing, the level was expected to be established at around $60 a barrel, which is broadly the current market price for Urals oil (see Finance & economics section). Yet that would mean the embargo-and-price-cap scheme has little bite.

The other uncertainty is how much power the West will ultimately wield over global oil markets. A shortage of non-Western tankers could curb Russian supply over the next couple of months. Some kinds of insurance, for example, against big spills, are hard to find outside the West. Still, countries such as China, India and Indonesia want to avoid participating in Western sanctions and embargoes. They are seeking alternative sources of day-to-day insurance—and, because the ban was announced six months ago, have had time to prepare.

The true balance of power in oil markets will become apparent after December 5th. A violent price spike is possible. But the lesson from this year is that, over time, the global oil system is more adaptable than you might think. Just as financial sanctions have energised attempts to evade the Western banking system, so the war will lead China, India and others to circumvent the West's energy infrastructure. As weapons, sanctions and embargoes have their limits—and a finite shelf-life. ■

The gaming market

CoD and chips

Why trustbusters should let Microsoft buy Activision Blizzard

In the past two decades video gaming has gone from a nerdy hobby to a blockbuster industry, with revenues over five times bigger than the cinema box office. Today it is home to one of the largest tech mergers in history. In January Microsoft agreed to pay $69bn to buy Activision Blizzard, a game studio. Yet the megadeal may not go ahead. America's Federal Trade Commission—one of 16 regulators around the world to have taken an interest—will probably say soon that it will sue to block it.

Trustbusters have two main worries (see Business section). The first is the jewel in Activision Blizzard's portfolio: "Call of Duty", a military-themed first-person shooter game, the latest version of which sold over $1bn-worth of copies in just ten days. It is available on both Microsoft's Xbox games consoles and Sony's competing PlayStation. Regulators fear Microsoft could make "Call of Duty" exclusive to the Xbox, undermining competition between the ecosystems.

Microsoft says that it does not want to freeze out PlayStation. Its aim is to add titles to Game Pass, its monthly subscription service which, in effect, rents out a bundle of games rather than selling them individually. Herein lies regulators' second concern. At the moment Game Pass is chiefly an Xbox service, but it could one day have much broader reach as games are streamed ▸▸

from cloud-computing services onto people's televisions, web browsers and phones. Microsoft's cloud-computing business, Azure, might give it a technological edge while Game Pass—expanded to include Activision Blizzard's portfolio—provides the best content. Trustbusters worry that Microsoft could gain an insurmountable lead in a nascent market.

Neither worry is a reason to block the merger. Take "Call of Duty". Microsoft is starting from third place in the console market—in which it sells the Xbox at a loss—and Activision Blizzard earns hundreds of millions of dollars a year from selling "Call of Duty" to more numerous PlayStation users. Recent history suggests Microsoft should hesitate to give up those revenues. In 2018 AT&T, a telecoms company, bought Time Warner, a media giant. It then pulled stellar exclusive content, such as the sitcom "Friends", from rival broadcasters' streaming platforms in an effort to promote its own service. That helped cause a collapse in profits and the unwinding of the merger. Although Microsoft would have good reason not to make "Call of Duty" exclusive, regulators could in any case insist it honours a promise to keep selling the game to PlayStation users on reasonable terms.

Television also offers a lesson about game streaming. In 2016 Hollywood was rife with fears that Netflix would become a monopoly. Some argued it wielded so much power that fed-up creative types were scared to criticise it. Its advantage did not last. Today its growth is stalling as it faces competition from Amazon and Disney. Games are harder to make and stream than sitcoms. But plenty of firms are capable of challenging Microsoft, including gaming rivals like Nintendo and technology giants like Nvidia and Apple. Microsoft would not own blockbuster games from "Fortnite" to "FIFA", made by the studios Epic Games and Electronic Arts, respectively. By one estimate, a merged Microsoft-Activision Blizzard would account for only 14% of global gaming revenues among the biggest listed gaming companies.

Stay frosty

Trustbusters are twitchy about technology mergers, having failed to stop Facebook buying Instagram and WhatsApp in the early 2010s, which led to a time when social media was less competitive than it should have been. But Microsoft is experimenting with an unproven business model, not picking off a competitor. Game Pass is only about 15% of Microsoft's revenues from Xbox games and streaming accounts for well under 1% of game spending today. The fact that a market is only just getting off the ground is a reason for regulators to be cautious, not for them to intervene. Preventing Microsoft from buying Activision Blizzard is as likely to harm consumers by stopping a new product from taking shape as it is to protect them from a big company with excessive market power. ■

The cyberwar in Ukraine

The digital front

Ukraine has shown how cyber-defence can prevail

WARS ARE testbeds for new technology. The Korean war saw jet fighters employed at scale for the first time. Israel pioneered the use of drones as radar decoys in its war with Egypt in 1973. And the Gulf war of 1991 was a coming-out party for GPS-guided munitions. Russia's invasion of Ukraine is the first time that two mature cyber-powers have fought each other over computer networks in wartime. The result is a lesson in the limits of cyber-power and the importance of having a sound defence.

The popular notion of cyberwar has been shaped by lurid and dystopian scenarios of an "electronic Pearl Harbour", first envisaged in the 1990s and accentuated by the relentless digitisation of society. Those fears have been fanned by glimpses of the possible. The American-Israeli Stuxnet worm, which came to light in 2010, inflicted damage on Iranian nuclear machinery with fiendish ingenuity. Russian malware sabotaged Ukraine's power grid in 2015 and 2016.



Yet when a full-blown cyberwar came to Ukraine, the result was modest. This was not for want of trying. Russia has thrown vast amounts of malware at Ukraine—the largest onslaught ever, say some officials. There were some notable successes, such as the disruption of Viasat, a commercial satellite-communications service used by Ukraine's government and armed forces, less than an hour before the invasion.

But, despite Russia's cyber-warriors, Ukraine's lights, power and water stayed on. The banks remained open. Perhaps most important, Volodymyr Zelensky, Ukraine's president, continued to make nightly television broadcasts to the nation. How?

Part of the answer lies in Russia's missteps (see Science & technology section). It limited its initial strikes because it assumed that Ukrainian infrastructure would soon come under its control. Russia's cyber-forces also have less experience of integrating cyber-operations with military ones than their American counterparts, who have been doing it for 30 years.

The conflict also shows how wartime cyber-power has been miscast. Spectacular cyber-attacks are rare because they are much more demanding than commonly thought. The Russian sabotage of Ukraine's power grid in 2016, for instance, took more than two years to prepare. Viasat-like attacks are not mass-produced missiles that can be launched at any target. They are custom-made.

All this has two implications. One is that cyber-campaigns can run out of steam. Russia's troops planned for a week-long war. So, too, did its hackers. When the invasion dragged on, they had to adjust their ambitions. They resorted to more basic attacks that could be launched at high tempo and scale. These were, and remain, a challenge for Ukrainian forces—but a manageable one.

The second implication is that elaborate cyber-offensives are often needed the most when raw violence is off the table. If a war is raging anyway, why use exquisite code when a missile will do? Russia's recent air attacks show that Iranian drones are a cheaper and simpler way to knock out the power grid.

Wartime cyber-offensives tend to complement military action rather than replace it. The most important cyber-operations are not those aimed at shutting down banks and airports, but ▸▸

those which quietly carry on intelligence-gathering and psychological warfare—tasks that have been part of battle since long before the existence of computers or the internet.

But if the cyber-conflict has underwhelmed, it is Ukraine that ultimately deserves the most credit. Russia treated Ukraine as a cyber-testing-range in the years after its first invasion in 2014. Ukraine was thus prepared. On February 24th its cyber-teams fanned out across the country, so that they were dispersed. Much of Ukraine's digital infrastructure migrated to servers abroad, beyond the reach of Russian bombs.

Western governments and their cyber-agencies also played a role, sharing intelligence, fortifying Ukraine's networks and rooting out Russian intruders in December and January. So, too, did private firms like Microsoft, an American tech giant, and ESET, a cyber-security company from Slovakia, which monitor traffic on Ukrainian networks, often using artificial intelligence to comb through huge volumes of code. "The cyber-defence of Ukraine relies critically on a coalition of countries, companies and NGOs," wrote Microsoft in a lessons-learned report in June.

It is still early to draw solid conclusions. The war is raging and new malware is appearing all the time. Russia may be keeping some of its most potent cyber-capabilities in reserve. Yet the first signs are encouraging. It has often been assumed that the cyber-domain is an attacker's playground, and that malware will always get through and cause devastation. Ukraine has defied expectations and shown that even one of the planet's best-resourced cyber-powers can be kept at bay with a disciplined and well-organised defence. ■

Sex

The wounds of silence

Sexual problems can wreck people's lives. Yet remedies are often simple

A generation ago being depressed or anxious—let alone having serious mental-health problems—meant suffering mostly in silence. Stigma meant few people wanted to talk. Doctors turned a blind eye. Most saw mental illness as regrettable but not something that made much difference to a patient's physical health. These days the stigma has faded, if not entirely disappeared. Early treatment often nips things in the bud.

A similar transformation is due for sexual problems, which lie beneath the same blanket of taboo and embarrassment as mental health once did. One in five men in America and Europe has erectile dysfunction at some point in his life; half of British women say they had a sexual problem in the past year, including pain during sex or difficulty reaching an orgasm. Plain old lack of desire is common, especially among women.

Trivialities? A topic best left unmentioned? Sexual problems can be harbingers of other illnesses, such as diabetes. Erectile dysfunction is up there with smoking and a family history of heart disease as a predictor of heart trouble. Doctors who ask about it can make an early diagnosis, and offer preventive coronary treatment.



Sexual problems more generally are thought to contribute to between a fifth and half of all divorces; reducing that number would spare many adults and children from misery and impoverishment. Erectile problems are both a cause and a consequence of anxiety, which can make life harder to cope with. Poor productivity at work is twice as high among men with such problems as among those without them (see International section).

Tackling sexual dysfunction can be simple and cheap. One easy win would be to change the way children learn about sex. Instead of focusing only on avoiding the downsides, such as diseases or unwanted pregnancies, teachers could encourage discussions of pleasure, and of how to talk to a partner about it, as well as how to communicate and understand enthusiastic consent. Sexual problems often crop up in adolescence, made worse by general teenage awkwardness around the opposite sex (or indeed the same one). So teach them about those too, and never mind the giggles at the back.

Critics may object that sex is everywhere in modern culture, and the last thing anyone needs is more of it. But this misses the point. The sex in film and television dramas, let alone pornography, bears scant relation to real life. Trying to learn about sex from Hollywood is like watching James Bond for tips on a career as a British civil servant. Better to point teenagers to more realistic sources, such as BISH, a British website that answers all sorts of niche questions that trouble young people as they begin stumbling their way through sexual relationships.

More ambitiously, sexual problems should be a core part of medical education. Only then will doctors begin to discuss them routinely—as they do with boils, exercise, heart disease and other health-related matters. A lot of suffering can be alleviated by simply giving people frank information about what is happening to them and why. That, plus a few sessions of therapy, some pelvic-muscle exercises, or suggestions for simple changes in lifestyle, is often all patients need. Such things are now packaged in apps, some of which have been approved by medical regulators.

Scientists should shed their inhibitions, too. It is hard to fix problems without first understanding them. Research projects are often blocked because committee members find the subject uncomfortable. And for the puritans out there, who doubt that mere pleasure is sufficient grounds for changing things, it is worth noting that better research into sex is likely to improve public health. Studies find that when discussion of pleasure is part of HIV-prevention schemes, people use condoms more. (Putting one on can be part of foreplay, for example.)

From tragedy to romance

Sex is one of the greatest joys in a human life. At its best, it is a source of ecstasy and a shared expression of lasting affection. That so many people nonetheless find it painful or disappointing is a tragedy. Yet for a large proportion of them, it can be turned into something far more agreeable. Being more open about sex is one of the easiest ways to enhance happiness and health. So why not try it? ■

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Ready for kick-off

Your defence of Qatar hosting the football World Cup was essentially that other countries that are deemed unpleasant by the standards of Western democracy have also hosted large sports tournaments, so we shouldn't complain about this one ("In defence of Qatar", November 19th). Pointing to inconsistency and hypocrisy from the West on this issue is just whataboutism, and has nothing to do with the merits, or lack thereof, of Qatar as a World Cup host.

Moreover, you think that the bribery associated with winning the bid to host the cup "says more about FIFA", the body that governs international football, than Qatar. I think there is more than enough blame to spread across both parties. And Qatar isn't "a den of homophobia"? Fans who simply wear rainbow colours are being told to remove them before they are allowed to enter stadiums in Qatar. As for migrants being "sometimes" mistreated, it is well documented that the labour laws in Qatar systematically mistreat migrant workers.

GALEN STOPS
New York

Do we really want to say to minorities that we strongly believe that they must be treated equally, provided that doing so does not conflict with football?

DAVID TERRY
Droitwich, Worcestershire

It was a bad choice to give the event to Qatar. It is the smallest country ever to host the cup, and was also the least prepared. Hundreds of billions of dollars have been spent, and yet the organisers still encouraged fans to stay beyond Qatar's borders and shuttle in for matches. Imagine asking Chicago to host 64 matches in one month, swelling the city's population by half, but not allowing people to stay in the suburbs because the infrastructure doesn't exist.

ADAM SHAFFER
Washington, DC

If FIFA wants to avoid the criticisms over the decision to award the World Cup to Qatar (and, as you say, to any number of unsavoury regimes) maybe it could come up with a set of social criteria that governments need to include as part of their bids.

GRAHAM WILLETT
Melbourne

Your leader suggested that criticism of Qatar is unfair or perhaps hypocritical, given that previous hosts of the cup include Vladimir Putin's Russia and the junta-led Argentina of 1978, neither of which received this kind of flak. But maybe issues like human rights and the plight of migrant workers are now taken more seriously than they once were. Is that not a development *The Economist* welcomes?

PAUL MOSS
London

In order to defend Qatar as a "perfectly good choice" for hosting the World Cup, you pointed to how bad the Argentine junta was in 1978 because it "threw critics out of helicopters". That bar is, perhaps, too low.

PATRICIO GALLARDO
Chicago

Make Russia pay

You take it for granted that Western governments and private investors will have to finance Ukraine's rebuilding after the war through a kind of Marshall Plan ("Dreams of peace", November 12th). However, under international law, and universal principles of compensation for wrongdoing, it is Russia that must provide reparations for the wanton damage to public and private property, as well as the deaths and injuries, caused by its unlawful aggression. Its conduct of military operations is in breach of the most elementary rules of the law of armed conflict.

The United Nations Compensation Commission, established by Security Council resolution 687 in 1991 to compensate losses suffered by Kuwait and private individuals because of Iraq's invasion, is a good precedent. The commission has recently concluded its work after paying out more than $52bn, thanks to a compensation fund financed by a percentage of the proceeds of oil exports from Iraq.

In the case of Russia's aggression, the assets of Russia and the oligarchs who support Vladimir Putin could be put into a fund. The owners of these assets have been blocked from tapping them because of sanctions. It would be revolting to give them back to the original owners once the war is over. They should be handed as compensation to Ukraine, or instead finance an internationally established multilateral fund, such as after the first Gulf war, to provide for its reconstruction.

GIORGIO SACERDOTI
Emeritus professor of international law
Bocconi University
Milan

It's in the BHAG

I certainly hope Bartleby is wrong, and that Elon Musk's mercurial, erratic and impulsive approach to "management" does not represent the future of this discipline (November 12th). Mr Musk's greatest achievements lie in leadership, through his successful application of the BHAG principle advanced by Jim Collins in "Built to Last". Mr Musk has used this Big Hairy Audacious Goal strategy perfectly.

Through Tesla he is driving to save the planet through the electrification of transport. He has thrust SpaceX into a leadership role in space transport. With Starlink he has pursued the celestial connection of the planet while challenging oligopolistic competitors. The virtues of these undertakings counterbalance his managerial shortcomings.

The difference between vision and hubris is often the power of purpose. Mr Musk's decision to take the helm at Twitter, a raucous, venomous social-media company, does not fit his renowned model of success. The BHAG of Twitter is more likely to stand for Bitterness, Haranguing, Anger and Grievance. A virtual town square driven not by outreach but by outrage. All his intelligence, energy and curiosity will be severely tested.

JAMES MCSHERRY
Creemore, Canada

Janet Yellen's record

Your praise of Janet Yellen was uplifting, but conveniently skipped over her other "achievements" ("Queen of economics", November 5th). The article did not mention that Ms Yellen was even more dovish than "helicopter Ben" Bernanke in the aftermath of the financial crisis of 2008, which has sown the seeds of income inequality for generations. Union workers are striking at the highest rate in three decades because they are fed up with waiting for that trickle-down effect from the asset-price inflation that Ms Yellen helped create.

As recently as this spring Ms Yellen was convinced that inflation is "transitory" and not a problem that needs tackling. And her push for an oil cap has resulted in a policy no one really likes, no one believes will work and has allies scrambling to minimise its negative impact.

MAXIM IAKOVLEV
London

Good grief

Much has been made of the philosophy uttered by the characters in "Peanuts" (Home Entertainment, November 19th). My favourite, much in need these days when people torture themselves with endless and pointless "what ifs", is Charlie Brown's advice to "dread one day at a time".

DEAN MACLAUGHLIN
St Paul, Minnesota

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Zero options

BEIJING

Xi Jinping's failing covid strategy leaves China with no good way forward

READERS OF THE *People's Daily*, the Communist Party's official mouthpiece, could scan the issue of November 29th and come away thinking that the fight against covid-19 is going splendidly. A front-page commentary on Xi Jinping's first decade as China's leader praised him for controlling the pandemic, stabilising the economy and defusing crises. Of the surging number of new infections, of the dire state of the economy owing to widespread, strict and enduring public-health restrictions, and of the protests that have erupted around the country against Mr Xi's "zero-covid" strategy, there was not a whisper.

Reality, however, is not as biddable as the *People's Daily*. Mr Xi is in a crisis of his own making, with no quick or painless route out. New covid cases are near record levels (see chart 1 on next page). The disease has spread to more than 85% of China's cities. Clamp down even harder to bring it back under control, and the economic costs will rise yet higher, further fuelling public anger. Allow it to spread and hundreds of thousands of people will die, if not more. *The Economist* has modelled the likely progress of China's current outbreak. If it is allowed to proceed unchecked, even assuming all patients who need intensive care receive it (which they would not), some 680,000 people are likely to die. China's leaders appear to be searching for a middle ground, but it is not clear there is any.

Zero-covid is a vast undertaking, built around a daunting goal: to detect every person who has the virus and to quarantine them and their close contacts within hours. Refusing to live with the virus, China has used mass testing to screen hundreds of millions of people in a single day, built pop-up quarantine centres across the country and locked down whole cities and even regions for months. Party leaders call this the only way to keep China's people safe, given its large population, weak health system and many old people.

In 2020 and 2021 zero-covid worked remarkably well. Officials like to contrast mainland China's official death count from the pandemic of 5,233 with the more than 1m people killed in America. This, they argue, is proof of Western decadence. But Omicron and its subvariants are more contagious than the variants that prevailed in the early stages of the pandemic, straining the effectiveness of zero-covid and spurring lockdowns that bankrupt businesses and exhaust citizens. The public is losing confidence that it is worthwhile.

The ideal would be a gradual opening once preparations for the inevitable surge in infections are in place. This is the path taken by such formerly closed-off places as Australia, Singapore and Taiwan. It involves administering vaccines and boosters, stockpiling anti-viral drugs, training medical staff, expanding intensive-care units (ICUs) and adopting protocols to decide which patients to treat where.

But China is not ready for an orderly exit of this sort, says Yanzhong Huang of Seton Hall University in America. China's leaders have failed to vaccinate the population properly, especially the old. A course of three locally made vaccines provides good protection against severe disease and death, but only 40% of those over 80 have had the full three. A campaign to encourage the old to get jabbed, announced on November 29th, will take time. Giving ▸▸

everyone a fourth booster would allow for a much safer exit, but work on that has barely begun.

That raises the prospect of a chaotic retreat from zero-covid, in which authorities lose control of infections and ICUs are overwhelmed. It is a bad time to appease public anger by easing restrictions. Winter is coming; the air is colder and drier, and people huddle indoors where viruses spread easily. A sudden opening would let covid rip through a country that has little or no immunity from previous infections.

Small wonder, then, that the authorities appear to be trying to stick to zero-covid, while attempting to make it more palatable to ordinary people and less damaging to the economy. This is leading to confusing results. The city of Guangzhou, for instance, has eased restrictions despite a surge in cases, after protesters clashed with police. But a similar loosening, in the city of Shijiazhuang, was reversed just weeks ago. Many other locked-down cities show no sign of easing restrictions.

Meanwhile the current outbreak is growing. Ominous recent articles in the *People's Daily* call for officials to prepare to feed large numbers of people and improve the management of vast quarantine sites. Sticking with zero-covid, given how widely the disease is spreading, would be tantamount to cracking down harder, which would pummel the economy and further infuriate ordinary citizens.

For nearly three years, zero-covid was broadly tolerated, indeed welcomed, because at any moment its heaviest costs fell on a minority of China's 1.4bn people, be it residents of a city shut down by an outbreak, parents of children forced to learn online or business types struggling with barriers to travel. For most Chinese, life felt relatively normal, and safe.

But the oases of normality have been shrinking. Many places have locked down several times. Frustrations are boiling over. Some recent protests in big cities and on university campuses have had a political edge, as young Chinese denounce zero-covid for robbing them of their freedoms. Other public displays of anger have been largely apolitical, as when residents of a gritty suburb of Beijing kicked down quarantine fences to get to work. Citizens of Urumqi, in the western province of Xinjiang, marched to demand an end to a lockdown that saw ten people burned to death on November 24th in an apartment tower whose fire exits had been sealed, according to locals (Xinjiang officials blamed the victims for failing to save themselves).

The Biggest White

All discontent with zero-covid is a rebuke for Mr Xi, who is hailed by official media as commander-in-chief of a people's war against the virus. It is a response, too, to the way he has used the policy to extend the reach of the state and the party into every corner of life. This has involved high-technology surveillance tools, such as movement-tracking smartphone apps, as well as low-tech campaigns to use grassroots party members to enforce quarantines. "Big Whites", the nickname for covid workers in white protective overalls, have become icons of unaccountable coercion. Despite the best efforts of censors, social media is flooded with smartphone videos of citizens being beaten for walking outdoors without a face mask, of people being padlocked in their own homes and of parents trying to carry sick children through checkpoints. Freedoms have not felt this constrained in many years.

If sticking with zero-covid is becoming politically painful, it is economically still less tenable. Until recently, a few metres from *The Economist*'s bureau in Beijing, a shivering Big White sat outdoors in below-freezing weather, guarding a roped-off apartment block that has been sealed for nearly a week, trapping residents at home because of a single case of covid. Move outside the compound that houses the bureau, and all restaurants and most shops are closed, and the streets quiet. Beijing's schools have migrated online, again. To enter any public building, or board a taxi or bus, residents must register with their smartphones, and show a green health code with evidence of a recent covid test. Long queues can be seen at testing huts.

The cost of all this is staggering. The 35 largest firms producing covid-19 tests raked in some 150bn yuan ($21bn) in revenues in the first half of 2022 alone. A broker, Soochow Securities, has estimated China's bill for covid testing at 1.7trn yuan this year, or around 1.5% of GDP. That number, which some consider an underestimate, equates to nearly half of all China's public spending on education in 2020.

Worse, lockdowns and restrictions on movement have stunted consumer confidence and growth. During the week of November 14th, as covid cases rose, the number of domestic flights fell by 45% year on year. The three biggest airlines lost a combined 74bn yuan in the first nine months of 2022. Subway traffic in the ten largest cities was down by 32% year on year, according to Macquarie, an Australian bank. A measure of road freight in the week to November 25th was 33% below its level the year before. Box-office revenues, a gauge of people's willingness to go out and about, tumbled by 64%. Only 37% of cinemas were open on November 28th.

Full or partial lockdowns are now in place in cities accounting for about a third of China's GDP, according to an index compiled by Gavekal Dragonomics, a research firm, although rules are changing fast. Every city is subject to some restrictions, worse than at the height of the previous surge, in April (see chart 2 on next page).

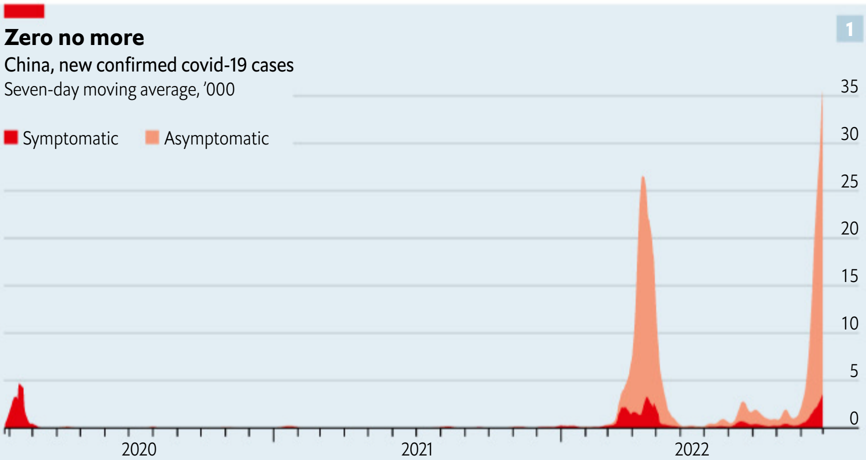
Inevitably, it is not just services that are suffering disruptions, but manufacturing, too. A recent lockdown at a plant that assembles iPhones in the city of Zhengzhou has diminished Apple's supply of the coveted devices at the height of the holiday shopping season. The factory, which employs 200,000 people and is owned by Foxconn, a Taiwanese company, suffered from an outbreak in October. The authorities resorted to "closed-loop management", a euphemism for sealing factories and making workers sleep near their production lines for weeks on end. Food became scarce. Rubbish piled up. In early November many employees made a run for it, hopping over walls and walking down motorways in an attempt to get home.

To resolve the labour shortages, officials in Henan province, where the factory is located, have called on low-level Communist Party functionaries to begin staffing production lines while Foxconn tries to recruit more workers. Production will probably still fall short. And the problem is not unique to Apple. China's purchasing

Zero no more

China, new confirmed covid-19 cases

Seven-day moving average, '000



Sources: National Health Commission; WIND

manager's index (PMI) for manufacturing fell from 49.2 in October to 48.0 this month (anything below 50 indicates a contraction in activity). New domestic and exports orders are weakening and supply chains are growing more fragile. Capital Economics, a consultancy, notes, "Delivery times lengthened at the most rapid pace since May while firms dug deeper into their inventories of raw materials."

Policymakers are attempting to gin up the economy. The central bank has cut the amount of cash banks have to hold in reserve to encourage them to lend more. Technocrats have attempted to breathe new life and confidence into the property market, where sales have plummeted over the past year. They are trying to help struggling developers gain access to credit, so that they can continue building. But even if new apartments get built, continued lockdowns and dire consumer confidence will deter many potential homebuyers.

In principle, renewed, massive lockdowns could keep zero-covid alive, says Ben Cowling, a professor of epidemiology at the University of Hong Kong. Shanghai locked most of its 25m residents indoors for more than two months in the spring of this year, an event still remembered with horror in that city. But it worked. "Shanghai is the nuclear option. Cases were rising rapidly, isolation sites were full and mass testing was overwhelmed." Without a lockdown half of Shanghai's population could have been infected, says Mr Cowling. Instead, the outbreak was wrestled back to zero, or close to it.

Public-health experts, however, question the purpose of such heroic efforts without a credible exit strategy. Each victory over covid only postpones an inevitable reckoning with the virus, which in the meantime keeps evolving. "What if the next variant is as transmissible as Omicron, but the severity is as bad as earlier variants like Delta?" asks Mr Cowling.

The economic benefits of containing the virus might not be as big as before, either. For one thing, boards in Europe shudder at images of workers kept behind fences by guards, says Joerg Wuttke, president of the EU Chamber of Commerce in China: "There is a human-rights component to this." More importantly, China's focus on supply-side policies cannot conceal a crisis in consumer demand. "People who are scared don't buy stuff." Any resort to harsher lockdowns will see sentiment turn sharply against China, Mr Wuttke suggests. "To lock this virus down, you have to try North Korean methods, and nobody does business with North Korea."

In addition, over the past six months there has been a steady stream of protests against onerous public-health restrictions, with the incidence increasing markedly after the deadly fire in Urumqi in late November (see map). Young people on the streets of Beijing, Shanghai and other cities chanted, "We don't want covid tests; we want freedom."

Yet even an orderly exit from zero-covid would be politically excruciating for Mr Xi. Until recently the party cited the policy as proof of its wisdom and benevolence. In the spring of 2020 the collective self-sacrifice of hundreds of millions of Chinese surprised the world, when their willingness to stay indoors for weeks halted the outbreak that began in Wuhan. Mr Xi over-learned the lessons of that success, declaring self-discipline, vigilance and isolation the key to defeating the pandemic. Rather than use zero-covid to buy time to prepare for an eventual opening, with the help of effective vaccines and new anti-viral medicines, China largely halted nationwide vaccination campaigns in early 2022 and put its faith in grit.

In May party leaders condemned debate about covid strictures as disloyalty and embraced the slogan "Persistence is Victory". In July the Western-educated head of China's Centre for Disease Control, George Gao, who had fretted openly about the efficacy of China's vaccines, was pushed into retirement aged 60 (though officials of his rank often serve for longer) and replaced by a scientist publicly charged with upholding Mr Xi's orders "to the letter".

The stifling of debate has had baleful consequences. China has not approved the use of foreign vaccines, including the most effective ones, the mRNA jabs made by Pfizer-BioNTech and Moderna. Studies from Hong Kong show that three shots of Chinese-made vaccines offer the same high protection against serious illness and death as two mRNA doses. But the protection accorded by Chinese shots appears to wane significantly after six months. Worse, the authorities have focused on testing and building quarantine sites this year, while failing to administer third (or even fourth) doses to all, even though these would require no new infrastructure or political messaging. European diplomats were aghast on visiting a high-tech covid-vaccine factory in a suburb of Beijing in late November. They found it idle, with no sign of big new government orders.

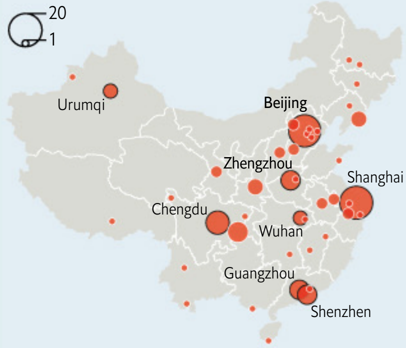
Under-investment in health care also makes an orderly end to zero-covid more difficult. China has built aircraft-carriers, sent spaceships to the Moon and staged two Olympic games in the past 20 years. But it has just 4.3 ICU beds per 100,000 people, a number that proved cruelly inadequate during the first covid outbreak in Wuhan. By April 2020, 29 provinces had sent 42,600 medical personnel to Wuhan, including 19,000 ICU doctors and nurses. No such solidarity would be on offer if dozens of cities suffer mass outbreaks at the same time.

The government recently vowed to expand China's ICU capacity. At the height of the outbreak in Wuhan, the authorities built a 1,000-bed hospital in six days. But training new ICU medics takes years. Only a small minority of Chinese doctors have seven-year medical degrees. Indeed, 42% of doctors do not have a university degree of any sort.

Any increase in infections and deaths poses a problem for propagandists. Since the start of the pandemic, state media have played up the ravages of covid in the West and publicised the side-effects of foreign vaccines. As recently as October 13th a senior health official, Liang Wannian, used a press conference to discuss the "unknown" dangers of "long covid". Almost every evening the main television news still reports the latest death count from covid in America. Such fear-mongering has paid political dividends. At an anti-lockdown protest in Beijing on November 27th, an old man berated young demonstrators lighting candles for the victims of the fire in Urumqi, citing America's death toll and

PCR you serious?

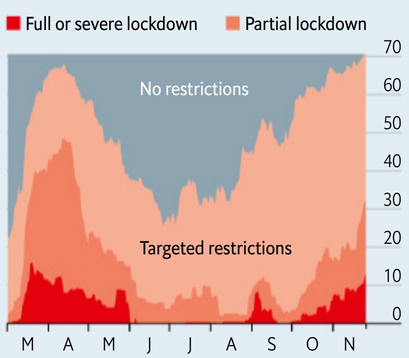
China, protests against covid-19 pandemic policies*, June 1st-November 28th 2022



*Data compiled from a range of sources including news reports, civil-society organisations and PRC-based social-media platforms
Source: Freedom House's China Dissent Monitor

Lockdowns up 2

China, lockdown intensity in top 100 cities
By share of national GDP affected*, 2022, %



Source: Gavekal Dragonomics *Top 100 cities=70% of total GDP

asking what China has to mourn.

But the party line is changing. Sun Chunlan, a deputy prime minister who is China's top covid enforcer, talked about the "weakening" of the Omicron variant on November 30th. Official media have begun interviewing covid patients about their mild symptoms. The first covid deaths in months were reported in November. But at no point has the party braced the public for the truth that covid causes large numbers of deaths in every country, sooner or later.

What is more, even a carefully orchestrated exit from zero-covid would be a drawn-out affair, with lots of ups and downs. Local officials—struggling with orders to be neither too harsh nor too lax—are already resorting to stealthy controls. Businesses in Beijing have reportedly received unsubtle "invitations" to close down, or been told to shut up shop via oral instructions from police patrols.

A bumpy Chinese opening could exacerbate the slowdown in commerce. Both shopkeepers and shoppers might choose to shelter at home. Factories could temporarily stop running as infections sweep across production floors. Some local officials, who have been trained to avoid covid cases at all costs and who will face terrible strains on their health services, could be tempted to form city-, province- or even region-sized bubbles to reproduce some of the effects of zero-covid.

China is a vast, surprisingly decentralised place. Throughout the pandemic, national leaders have had to chide local authorities for closing borders to lorry drivers and migrants. In one memorable incident in 2020, the lifting of a lockdown of Hubei province, where the virus was first detected, provoked scuffles between police from Hubei and their counterparts from the neighbouring province, Jiangxi. Officers joined thousands of locals in a mêlée on a border bridge over the Yangzi River, after Jiangxi police tried to stop Hubei residents from crossing.

Chaotic conditions, if the transmission of the virus is allowed to proceed fairly rapidly, could last for three months at a minimum. Ting Lu of Nomura, a Japanese bank, says that the regions covered by lockdowns during this phase could account for as much as 40% of GDP, with output falling over one or two quarters. Even if China were to end zero-covid immediately, the positive economic effects would probably not be felt until 2024, say analysts at Capital Economics.

But the biggest risk of backing away from zero-covid is a surge of infections that overwhelms hospitals and causes vast numbers of deaths. A glimpse of what China might suffer in a chaotic exit is offered by the fate of Hong Kong earlier this year. The territory had pursued a version of zero-covid, imposing quarantine on arriving travellers and strict social distancing. It was nonetheless overwhelmed when Omicron hit in January. There were 10,000 deaths in a population of 7.5m, with almost all of the victims old and unvaccinated. Though Hong Kong has a more advanced health system than mainland China, hospitals were swamped. At one point, bodies were left in bags on the floors of wards next to living patients. Some of the sick were treated on stretchers in car parks.

Identical, horrifying images were seen in Wuhan in early 2020, though in China they were swiftly censored and grieving relatives were warned by police not to speak to the press. The repetition of such scenes is exactly what China's rulers have tried to avoid by adhering to zero-covid.



Taking criticism on board

But that is what they are likely to get in the absence of severe and lasting lockdowns, according to *The Economist*'s modelling.

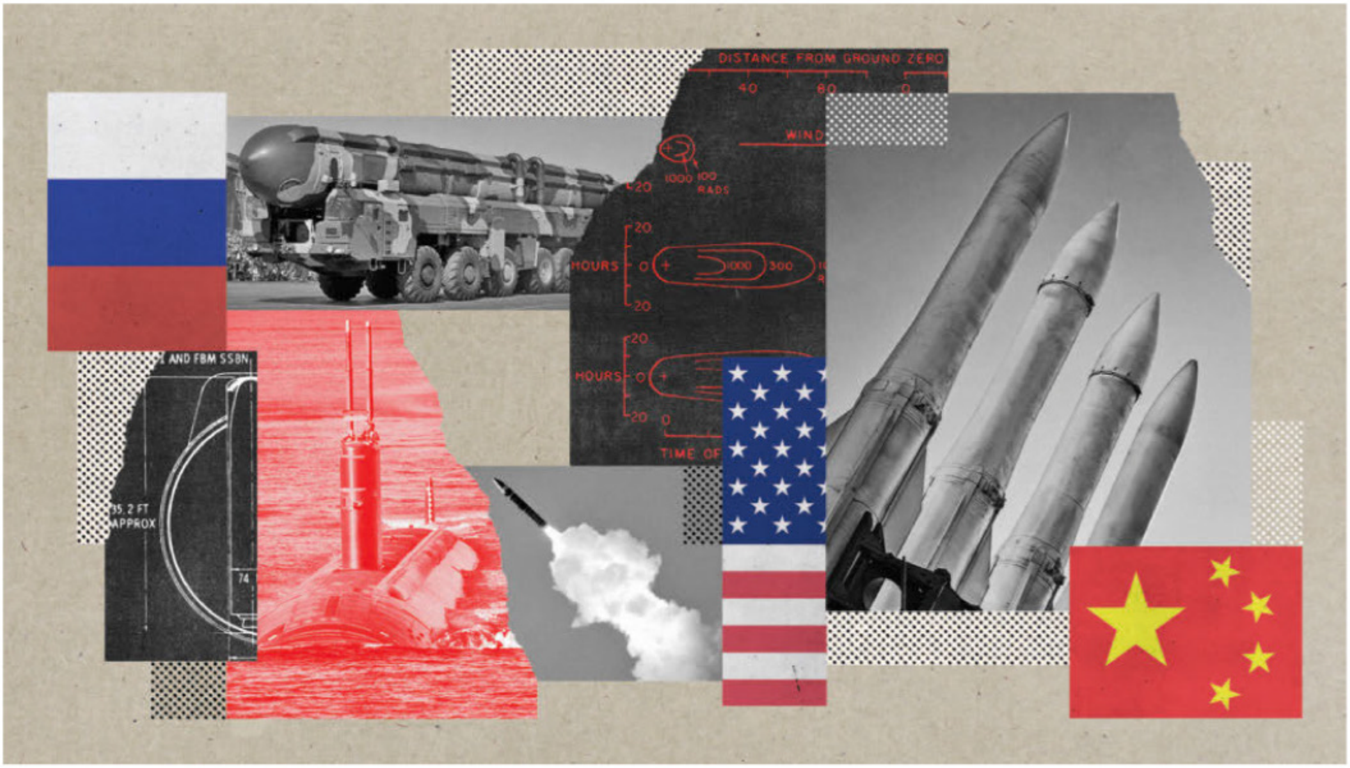
We calculated the likely number of infections, ICU admissions and deaths under three different scenarios: a reversion to strict lockdowns, a complete opening and a middle path that slows the spread of the virus by a third. We accounted for the age structure of China's population and the extent of vaccination. The scenarios are static, meaning that they do not allow for changes in policy. They are also conservative, in that they do not incorporate the expected reduction in the effectiveness of vaccines over time, since there are no good data on that for China's vaccines. In addition, we assume that every patient who needs treatment in an ICU gets it, which will not be the case if the current surge continues to grow exponentially.

Exponential threat

We found that if covid were allowed to spread unchecked 96% of the population would end up catching it, with new infections peaking at 45m people a day after a month. In this scenario, fatalities would reach 680,000, assuming no lack of ICUs. But China would need 410,000 ICU beds at the peak of the outbreak, which is almost seven times the current total. That suggests the true number of deaths would in fact be much higher. It could be reduced by widespread use of antiviral drugs (this scenario assumes that only 10% of patients will receive them), but the extent of China's stocks is unknown.

Our modelling also illustrates how a runaway epidemic would test the party's decision-making. If each case seeded just over three more infections and a national lockdown were imposed in a week, the number of infections would peak at 500,000. If the authorities waited three weeks, however, infections would reach 17m. A more moderate course, in which each infection seeded two others, would only reduce total infections by 14%. But it would spread the cases out over a longer period, which would ease pressure on ICUs. Even then, there would probably be four patients needing intensive care for every ICU bed. Only if China managed to give three vaccine doses to 90% of the population, up from the current two-thirds, would ICUs not be overwhelmed.

In other words, Mr Xi faces the choice between enforcing zero-covid even more strictly, even though that would invite a recession and public fury, or allowing the disease to spread very widely, with calamitous loss of life. Attempting to chart a middle path is only helpful if he uses the time he gains to raise vaccination rates, stock up on antivirals and expand ICUs. And not only are all Mr Xi's options unpalatable; he is running out of time to choose one. ■



Arms control

The conundrum of three-way nuclear deterrence

WASHINGTON, DC

America risks a new arms race, not only against Russia but also against China

THE LANKY Minuteman intercontinental ballistic missile and its squat naval cousin, Trident, stand sentinel near Omaha, outside the headquarters of America's Strategic Command, which is in charge of America's fearsome nuclear arsenal. Inside, STRATCOM's personnel say they have been at "battle stations" since the start of Russia's invasion of Ukraine in February, watching for any sign that Vladimir Putin might act on his threats to use nukes. For Admiral Charles Richard, the commander, the war in Ukraine marks a new era in which big powers use nuclear weapons to coerce rivals. But "this is just the warm-up," he declared on November 3rd. "The big one is coming. And it isn't going to be very long before we're going to get tested."

The "big one" is China, which is fast expanding its nuclear stockpile from about 200-300 warheads at the start of the decade to perhaps 1,500 by 2035, according to the Pentagon's latest annual report on China's military power, published on November 29th (see chart on next page). Its arsenal would thus start to resemble those of America and Russia, whose long-distance "strategic" nukes are capped at 1,550 deployed warheads each under the New START treaty (though, unlike China, they have thousands more shorter-range nukes as well as warheads in storage).

The cold war, in which America and the Soviet Union menaced each other with tens of thousands of nukes, was scary enough. In the new age America confronts not just Russia but also China. New weapons—among them hypersonic missiles that are hard to detect and shoot down, and space and cyber weapons that threaten command-and-control systems—may unsettle the nuclear balance. Worse, decades of arms-control agreements may end by 2026. A new nuclear-arms race looms. Many think that it has already started.

Admiral Richard last year sounded the alarm that China was staging a "strategic breakout". Now he warns that America is losing the military contest: "As I assess our level of deterrence against China, the ship is slowly sinking." President Joe Biden says America faces a "decisive decade". In a flurry of national-security policy documents this autumn his administration classifies Russia as the "acute" threat and China as the "pacing challenge".

"By the 2030s the United States will, for the first time in its history, face two major nuclear powers as strategic competitors and potential adversaries. This will create new stresses on stability and new challenges for deterrence, assurance, arms control, and risk reduction," declares the Nuclear Posture Review (NPR).

STRATCOM says it needs a new generation of theorists. Admiral Richard compares the conundrum to the three-body problem of astrophysics. The motion of two celestial bodies in orbit around each other is easily predicted by Newton's mechanics. Add a third body, and their movement becomes chaotically unpredictable. Should America keep concentrating on Russia, whose nuclear arsenal still poses "an enduring existential threat", and accord less priority to China, or vice versa?

Like many nuclear powers, China long adhered to a form of minimum deterrence, whereby a few hundred warheads are deemed sufficient to ensure enough sur- ▸▸

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vive a surprise attack to inflict devastating retaliation. In the cold war America and the Soviet Union lived instead by the mad maths of "counterforce", believing that nuclear war could be won with ever more weapons, many aimed at their foe's nukes.

From 60,000-odd warheads in the mid-1980s, their stockpiles shrank through arms-control deals. New START now limits their "strategic" nukes, such as intercontinental ballistic missiles (ICBMs) with a range of 5,500km (3,420 miles) or more. Each can deploy 700 launch platforms (ICBMs, submarine-launched missiles and heavy bombers) and 1,550 warheads.

Disarmament advocates want further limits. Some have called on America to adopt a policy of "no first use" akin to China's declared stance. Mr Biden campaigned for a looser formulation, that the "sole purpose" of nuclear weapons is to deter nuclear attack. But the war in Ukraine and an outcry among allies—who feared a weakening of the American nuclear umbrella—put paid to that. The Biden team instead declared fuzzily that the "fundamental role" of nukes is to deter nuclear attack.

One reason the administration has not done more to reduce the role of such weapons is that China appears determined to increase it. Its nuclear triad is growing apace. It is digging three vast fields with at least 300 silos for ICBMs. America says its Jin-class submarines have now been armed with JL-3 missiles, able to reach the continental United States from protected waters close to China. China has also deployed the nuclear-capable H-6N bomber, equipped for air-to-air refuelling. Having long kept warheads separate from missiles, China seems to be shifting to rapid "launch on warning" of an incoming nuclear attack, as in America and Russia.

Admiral Richard argues that, with such "breathtaking" expansion, China is seeking to "confront and coerce other nuclear-capable peers". But James Acton of the Carnegie Endowment for International Peace, a think-tank, questions whether China can produce fissile material as fast as the Pentagon forecasts. He argues that China's behaviour may be caused by fear that its modest arsenal is vulnerable to America's more capable spy satellites and missiles.

The "security dilemma" of the nuclear world is such that one man's defence is often the other's offence. China's test last year of a globe-circling hypersonic weapon may reflect an effort to ensure that any retaliatory strike can get through America's missile defences; or it could be a step towards delivering a surprise first strike.

Tong Zhao, of Princeton University's Programme on Science and Global Security, notes that China's policy has become more opaque and its language tougher, with talk of "strategic victory". He argues that China, as it gains a military edge in its region, may worry that America could use nuclear weapons to defend Taiwan. But Xi Jinping, China's leader, may have a political aim, suggests Mr Zhao: to hasten the end of the Western-dominated order and force America "to accept peaceful coexistence with China and treat it with respect".

For now, China seems uninterested in arms control. It says it will talk about limits only when America and Russia bring their stockpiles down to Chinese levels. In any case, it dislikes the intrusiveness of US-Russia verification regimes. For all of Mr Putin's nuclear threats, and American warnings of "catastrophic consequences", the two sides still regularly exchange information about their strategic weapons.

START anew

That is good. The bad news is that talks between American and Russian officials, who were due to meet in Cairo this week to discuss resuming mutual inspections, have been postponed. New START expires in 2026. It is the last major accord between the nuclear superpowers after America withdrew from the Anti-Ballistic Missile Treaty in 2002 (to pursue missile defences), the Intermediate-Range Nuclear Forces Treaty in 2019 (citing cheating by Russia) and the Open Skies treaty in 2020 (ending mutual reconnaissance overflights).

Three's a crowd

Estimated nuclear-warhead stockpile*



*Excludes retired warheads †DoD estimates stockpile is 400+, some of which may be deployed. No breakdown for non-strategic weapons

Sources: Federation of American Scientists; United States Department of Defence

America wants any successor to New START to cover nukes that are currently excluded. Among them are esoteric strategic Russian weapons under development, such as a nuclear-powered torpedo, and thousands of "non-strategic" or tactical nuclear weapons with a shorter range and usually a lower explosive power.

Time is short. America and Russia are unlikely to resume nuclear talks while war rages in Ukraine. They could keep abiding by the terms of New START after it expires, but that may not last without a new accord in sight. A Republican president, if one is elected in 2024, may be disinclined to negotiate a narrow US-Russia deal.

Hawkish Americans think it is time to rebuild the nuclear arsenal. They include Franklin Miller, a former Pentagon official who helped slash America's stockpile in the 1980s and 90s by shrinking the bloated target list and removing the "overkill" of using several warheads to destroy a single target. He thinks America should roughly double its arsenal to 3,000-3,500 deployed strategic warheads—within a treaty if possible or unilaterally if not. The aim is to ward off Russia and China simultaneously, because an alliance between the two cannot be ruled out, he says.

Russia and China would surely respond with still more nukes. Little matter, retorts Mr Miller. If they decided to match or exceed America's arsenal they would be wasting money on nukes that would only "make the rubble bounce". Others muse that 6,000 warheads would deter smaller powers from trying to match big ones.

In contrast, Rose Gottemoeller, who negotiated New START, warns against throwing away the gains of decades of arms control. America and Russia remain each other's most serious nuclear threat, and so have an interest in a new treaty. Russia, in particular, now faces an America that is modernising its triad and command system. China is a long way from parity, she notes, and America should not give up on seeking agreement with it. Rather than be drawn into a nuclear spiral, America should concentrate on competing in new areas of technology, such as quantum computing and artificial intelligence.

Team Biden says it does not need more nukes. Yet nuclear posture is in part political signalling, and politics may eventually push America to re-arm. The risk of Russia using nukes rises as it loses ground to Ukrainian forces. As China's military force grows, so will America's alarm. Some think America should already reload its nuclear bombers within the rules of New START. Once the treaty expires, both America and Russia can bring lots of stored weapons back into service. February 4th 2026, the last day of New START, may mark the start of a new nuclear race—this time one that is three-sided and perilously complex. ■

Needle exchanges

No harm intended

NEW YORK

A well-intended policy kills drug users

"THESE GUYS keep the costs down for me," Flaco says. On a Friday evening the 52-year-old comes to collect needles and tourniquets from the syringe-exchange van parked beneath the west Bronx's elevated train line. Flaco started using drugs at the age of six. The free needles keep him safe, he says, and make things just a little bit easier.

The van Flaco frequents is run by OnPoint NYC, one of 185 syringe-exchange programmes across America. Having started as an underground effort by non-profit groups in the 1980s, such exchanges took off as the AIDS epidemic burgeoned. The logic was simple: if barriers to obtaining needles were removed, drug users would stop sharing them and rates of HIV infections would fall. The schemes were a test of "harm reduction", the idea that de-emphasising abstinence and destigmatising drug use would improve outcomes for addicts.

Critics feared that harm reduction would encourage drug use. Upon launching a pilot needle-exchange programme in New York City in 1988 the city's health commissioner was accused of running a genocidal campaign against black constituents. That same year Congress banned the use of federal funds for syringe exchanges.

Decades of research prove that these programmes curtail disease. Junkies are in fact less prone to sharing needles when they get free ones. That sharply decreases rates of blood-borne illnesses. In 2014 an analysis found that every dollar spent on syringe exchanges spares the government around $7 in HIV-related health-care costs. Needle exchanges opened across America and Europe. For years no one detected the feared rise in substance abuse.

That was before the opioid crisis plagued America and economists started looking into the trade-offs. A new study by Analisa Packham published in the *Journal of Public Economics* uncovers an uncomfortable truth: this particular harm-reduction tool does lots of harm. Ms Packham compares how drug users fared in counties that opened syringe exchanges between 2008 and 2016 with those in counties that did not. Before the clinics opened, upticks in HIV diagnoses or overdoses in one set of counties were mirrored in the other. Once a syringe exchange came to town, outcomes diverged. Rates of HIV fell by 15% in counties with the new programme. But deaths soared. On average syringe-exchange programmes led to a 22% spike in opioid-related mortality.

Ms Packham notes that when fentanyl hit the market in 2013 the danger posed by needle exchanges increased. The synthetic stuff, which is 50 times more potent than heroin, is responsible for most American overdoses. Now that HIV is no longer a death sentence and opioids are more fatal than ever, the costs of drug addiction are far higher than they were—and the benefits of reduced HIV infections are lower.

Simply lowering the risks of getting sick—and the costs of paraphernalia, as Flaco from the Bronx articulated—could also incentivise drug use. Distributing PREP, an HIV-prevention medication, has been shown to make gay men less inclined to use condoms during sex. So too could harm-reduction tools make addicts use drugs more incautiously. In a study published in 2018 Jennifer Doleac and Anita Mukherjee found that when states legalised naloxone, a medication that reverses overdoses, opioid abuse increased. Though lauded by public-health advocates, naloxone did not save lives as intended. In some regions, fewer addicts died; in others, more did.

These works have been met with anger. Their findings upset harm-reduction defenders who consider their efforts already besieged by critics. The experience was so miserable that Ms Doleac, who studies crime, has decided never to write another health paper.

Leo Beletsky, a former drug dealer, now at Northeastern University, deems Ms Packham's findings "nonsensical" and thinks her paper should not have been published. Don Des Jarlais, at New York University, argues that addicts do not respond to incentives like others do, making the moral-hazard effect inconceivable. Susan Sherman of Johns Hopkins University says she doubts that new evidence that harm reduction does more bad than good would convince her to disregard previous research demonstrating otherwise.

A barrage of complaints led the editors of the *International Journal of Drug Policy* to retract a meta-analysis that found that safe-injection sites, where users do drugs in supervised settings, did not decrease rates of deadly overdose. "Retractions used to be reserved for fraud," says Keith Humphreys of Stanford University, a former drug-policy adviser for the Obama administration. No longer, it seems.

The economists aim to do no harm. They want to show which policies work. If syringe exchanges were better at referring addicts for treatment they could have more desirable outcomes, Ms Packham notes. Harm-reduction researchers admonish her for ignoring precedent. Disregarding the canon can indeed be dicey. But ignoring fresh evidence is worse. ■



New blood in Congress

To the winners, the spoilers

WASHINGTON, DC

House Democrats muster a more orderly succession than Republicans

IN FOOTBALL, most managers have short tenures and are forgettable. Longevity is the key to legacy. So too when it comes to party management in Congress. In the 20 years since Nancy Pelosi took control as Democratic leader in the House of Representatives, more than 500 fellow party members have worked under her management. But that era is now closing. The first and current female speaker of the House will give up legislative coaching at the age of 82, choosing to stand down rather than take the demotion to minority leader, after Republicans recaptured control of the chamber in the midterm elections.

The orderly transition went as planned. Hakeem Jeffries (pictured), a 52-year-old congressman from New York, unanimously won an intra-party vote to succeed Ms Pelosi and become minority leader—with a historic claim in his own right. Mr Jeffries is the first African-American to lead a major party in Congress. He could also become the first African-American speaker if Democrats were to recapture the chamber on his watch.

The rest of the gerontocratic guard is changing, too. In 2022 all three of the top Democrats in the House of Representatives were octogenarians. With Katherine Clark of Massachusetts taking over as second-in-command, and Pete Aguilar of California as third, the new leadership will be, on average, three decades younger. Unlike Republicans, who have term limits that keep rotation of important committee assignments fairly frequent, Democrats have ▸▸

been wedded to a system of seniority, which leaves junior members (including those with nearly a decade of experience) frustrated. Fittingly, Mr Jeffries has promised to reform that system.

Being leader of the minority party, which is largely disempowered in the parliamentary-style House, is at least an easier task than whipping the majority into shape. Even before their turn in power formally begins in January 2023, Republicans are already learning this lesson. Kevin McCarthy, their current leader in the House, has been desperate for the job since he failed to obtain it in 2015. And the California congressman might fail again.

His first campaign fell apart after he admitted on Fox News that the explicit purpose of a Republican-led investigation into the attack on American diplomats in Benghazi, Libya, in 2012 was to damage Hillary Clinton (the party had different standards of decorum then). Whereas the previous two Republican speakers, John Boehner and Paul Ryan, have trouble containing their contempt for Donald Trump, Mr McCarthy recognised early on that the only path to power was acceptance. Having aligned himself closely with him, Mr McCarthy contemplated a change of heart after the attack on the Capitol on January 6th 2021, only to change his mind again and fly weeks later to Mar-a-Lago, the president's Florida resort, and try to make up.

All the acting and auditioning means that, though most Republicans find Mr McCarthy perfectly agreeable, many do not respect him. Given the Republicans' razor-thin majority in the new Congress, only five defections within his party would be needed to deny him the speakership. And five Republicans have already said they will not vote for him. Most are well to the right of the would-be speaker—despite Mr McCarthy's decision to start courting them months ago (he has secured the endorsement of Marjorie Taylor Greene, a prominent, conspiratorial congresswoman from Georgia, for example).

That means that the start of the next Congress may be more dramatic than Mr McCarthy had hoped. One of its first acts is to elect the next speaker, who must win an absolute majority among the assembled representatives. If they cannot agree, the balloting continues with a limitless number of rounds, like the election of the pope but without the smoke.

Congress has got stuck here before and chosen to simply go with the plurality-winner. In 1849 the House amended its rules after it was fruitlessly in session for 19 days. It did so again in 1856 after the first 129 tries failed. Were he so committed to wielding power, Mr McCarthy could revive this ancient precedent. The alternative, being passed over once again, might be too much to bear. ■

Morticians

Bodies, bodies, bodies

PROVIDENCE, RHODE ISLAND

Women are revitalising America's funeral-services industry

NOT LONG ago one could admire Crystal Jovae Coratti's handiwork from the audience at Chicago's prestigious Goodman Theatre. Ms Coratti designed costumes and powdered actors with make-up. For "The Iceman Cometh" she distressed the trousers and clothes worn by a group of revellers looking for redemption at a bar in New York. These days Ms Coratti displays her talents in a less lively venue: a funeral home. To the surprise of family and friends she became a funeral director and embalmer, trading cadavers for actors. "Almost everyone was pretty gobsmacked because it was so out of left field," she says.

Like graves in a forlorn cemetery, American burial traditions lay undisturbed for most of the 20th century. Interment was the standard practice, funeral homes were owned and run by families and most memorial-services directors were men. But traditions are changing.

These days nearly 60% of Americans are opting for cremation, a cheaper and more flexible alternative to burial (in a costlier option, some firms let you launch your relative's ashy remains into space.) Funeral homes also are withering: since 2010 more than 1,000 have closed, and between 2011 and 2018 enrolment in mortuary schools dropped by nearly 20%. And women are now revitalising the industry.

In 2021 accredited mortuary-science programmes churned out more than 1,500 embalmers and funeral directors. About 70% were women—and their share among first-year students is growing. "When we think about who is a funeral director, we typically think white male. That is no longer the case," says Leili McMurrough, president of Worsham College of Mortuary Science in Illinois and chair of the accreditation board for mortician schools. It also is no longer the case that funeral services is an exclusive family trade. Ms McMurrough reckons only a tenth of Worsham's graduates come from legacy funeral homes.



Gently does it

In many ways Ms McMurrough is the archetype of the new funeral director. An Iranian-American millennial, she was studying law when she first learned about mortuary work. "I had never gone to a funeral before," she says. "I just didn't even know how to pursue it." She enrolled in mortician school. During the week she attended law lectures and over the weekend she embalmed bodies. She passed the bar and became a state-certified mortician the same year. Ms McMurrough now presides over a college where former bartenders, cosmetologists, nurses and even an erstwhile amusement-park employee study mortuary sciences.

What accounts for the sudden surge of women in America's funeral parlours? The general explanation—offered by some morticians themselves—is that women are drawn to the work because they are more empathetic than men. That may be true to a certain extent, as studies support the generalisation, but empathy seems a better explanation for why women, having already opted to become funeral directors, are succeeding in the role. "You have to make a connection with people right away [because] you have a very small window of time to get a lot of information," Ms McMurrough explains.

A more likely reason for the numbers entering the profession is that the job attracts women in their 20s and 30s who are seeking a vocational path that has a relatively low entry bar and promises a decent salary. Mortuary-sciences programmes are about two years long and cost less than $25,000. Job placement is almost guaranteed, especially since 60% of funeral-home owners plan to retire in the coming years. Online education is probably helping to change things, too. Mortuary schools arrived late to distance learning—under Ms McMurrough's leadership Worsham started offering online classes in 2019—but last year nearly half of the graduates were online students.

Ms McMurrough says newcomers are revitalising the industry as they emphasise personalised services instead of offering a rote set of options. But some curmudgeons still express scepticism about whether women are fit for the job. Ms McMurrough often gets asked if they are strong enough to lift a body. "Yes," she responds. "It's all about training." ■

The future of Napa Valley

In vino veritas

CALISTOGA

A winemaker's lawsuit against Napa County is about more than sour grapes

When Jayson Woodbridge, a former Canadian infantryman turned banker, changed careers and founded a winery in Napa Valley in 1998, he named it Hundred Acre. The name was a tribute to A.A. Milne's "Winnie-the-Pooh" and was meant to evoke carefree whimsy. More recently, however, Mr Woodbridge has been pondering a different sort of fiction: that of Franz Kafka, famous for his portrayals of labyrinthine bureaucracy.

In October Mr Woodbridge sued Napa County in a state court for "administrative overreach", accusing it of creating "mountainous red tape and endless bureaucratic obstacles" for him and other vineyard owners. He says he spent about six months listening to "other people's stories about how bad" regulatory overreach had become and decided "somebody's got to do something, and that somebody is me."

The lawsuit came after the catastrophic Glass Fire in 2020, which burned nearly 70,000 acres in Northern California, including some of Mr Woodbridge's property. After about a year of looking at the charred remains of trees, Mr Woodbridge decided to remove the stumps and experiment with "dry-farming" new vines, by putting young plants in pots with no bottoms in the hope that they would put down roots in the soil below. Napa County learned of the experiment and, threatening penalties, demanded he cease and replant the trees that had been there before, because he had not gone through the process of applying for a permit or doing an environmental review.

Defiant and defensive of his property rights, Mr Woodbridge accuses the county of arbitrary meddling. He says he did not move any earth for the vines, so was not required to apply for a permit. He also points out that vineyards serve as natural firebreaks, unlike flammable tree species. Napa County says Hundred Acre has "created an environmental hazard", leaving the hillside land "at high risk of erosion". On November 28th it filed a response to Mr Woodbridge's complaint and asked that the lawsuit be dismissed by the court with prejudice, because the actions for which he seeks relief and damages are "due to the acts and omissions" of Hundred Acre.

The battle is likely to be a long one. Mr Woodbridge is not interested in a quiet settlement and wants to see the county change its ways. ("If this was Texas, they'd be helping us. We're taxpayers, right?" he says.) He is a motivated warrior, having clashed with the local government before. In 2006 Napa's district attorney charged him criminally for not getting a permit to produce wine. (The charges were later dropped.) Mr Woodbridge also has the resources to fight. Having been awarded a perfect 100-point designation by influential aficionados for his wines 33 times, he charges a hefty $700 a bottle.

The lawsuit is noteworthy because it speaks to broader concerns about the business climate in one of the world's most famed wine regions, which attracts around 3.8m tourists a year. Napa has become a microcosm of California, which is notorious for heavy regulation and lack of friendliness to business. Napa Valley vintners are facing numerous obstacles, including drought and the threat of another big fire, which ruined most producers' 2020 vintage, but "overregulation is the single most important issue for small wineries," according to Stuart Smith, the founder of Smith-Madrone Vineyards & Winery. He says, "Fire risk is number two."

Bottles and bureaucracy

Mr Smith has worked in Napa Valley for 50 years but believes the county government is "frankly hostile to the wine industry". Rules are strict and unevenly enforced. For example, Napa is the only wine-growing region in the world that does not allow weddings, says Mr Smith. (A handful of wineries were grandfathered in and are exempt.) Napa restricts wineries' ability to profit from food sales or sell products other than wine. "The overregulation is so onerous that people go around it as much as they can," says Mr Smith, leading to a "classic black-market system".

A recent lawsuit by Napa County, suing Hoopes Vineyard, a small, family-owned winery, illustrates the local government's thirst for a fight. It accuses the winery of various violations that constitute a "public nuisance", including offering yoga classes, selling greeting cards and hand sanitiser, and failing to obtain a building permit for a structure that is more than 120 square feet (11 square metres). This is a chicken coop, according to Lindsay Hoopes, the boss. Ms Hoopes says the issue in Napa is not regulation itself but "unprincipled bureaucracy" and how it seems everybody is held to different rules. "The Napa permitting process has become this terror of never knowing what you're going to get next," she says.

Regulators are under pressure from environmentalists, who are concerned about everything from congestion to soil erosion, and may feel nostalgia for a time when Napa was more rural. But winemakers, too, face many difficulties, from declining demand among young people to climate risk, labour shortages and a slowing economy. "It would be good for the people applying the rules to spend two months working in the winery to understand how hard it is," suggests Jonathan Pey, a winemaker. Mr Pey has ended his California wine ventures and has decamped to France to produce Beaujolais.

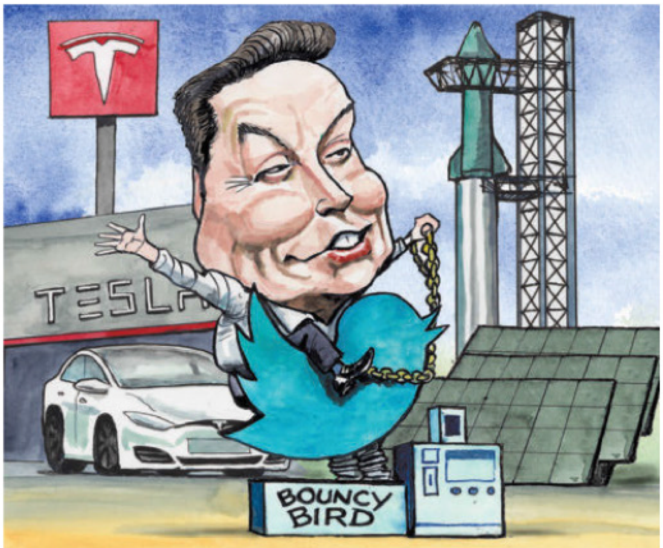
Others are staying closer to home. Caymus, one of Napa's most famous winemakers, recently expanded production and tasting in Suisun Valley, a 40-minute drive east of Napa. The business climate in Napa played a part in the decision—giving new meaning to a flight of wine. ■



The grapes of wrath

Lexington | Star dreck

Elon Musk is showing what a waste of time Twitter can be



"Rub it out!" stormed Henry Ford when his sensitive son Edsel summoned the courage to present him with a proposal to modernise the Model T. It was 1924, and Edsel saw the threat posed by the stylish cars emerging from General Motors. General Motors, of course, would go on to become the world's biggest carmaker and then the acme of sluggishness. To learn how to make better cars, it spent billions creating a new company, Saturn, and undertaking a joint venture with Toyota at a factory in Fremont, California. Both attempts to overcome inertia failed.

Yet now automakers not just in America but around the world are panting to transform the very nature of their vehicles. That is in no small part thanks to the company that paid next to nothing for the idle plant in Fremont and started making electric cars there. To the dismay of a short-selling multitude, Tesla proved to be the first successful startup in the American car industry since Chrysler, which was founded in 1925.

Rapturous about internal combustion—they could veer toward poetry when discussing its roar and smell—American car executives used to scoff at electric vehicles. Their forays into the technology yielded mediocrities that they seemed to hope would disillusion the tree-huggers who bought them. By showing the electric car could be glamorous, Elon Musk changed the industry.

Around that same time he was rejuvenating another doddering industry. Few experts thought SpaceX could succeed, either. They scorned the idea that anyone would entrust a satellite to a reusable rocket, a far cheaper option. Yet this year SpaceX, the low-cost ticket to orbit, is launching about a rocket a week. America is leading an industry it had all but ceded to Russia and is boldly planning ventures into the solar system once again.

You will read some of the less appealing bits about Mr Musk shortly. It seemed worthwhile first to note a couple of his achievements—he also helped lead what became America's largest installer of solar panels—because of the condescension and even hate bucketing upon him from America's left-leaning press these days. Sam Bankman-Fried may have built his reputation as a visionary upon sand, but it is Mr Musk who has become the face of capitalist perfidy. Yet has any other business person (or, let's face it, journalist) done as much to combat climate change? Or to save democracy in Ukraine, where Mr Musk's Starlink satellite network has kept the government, citizens and soldiers online?

The contempt for Mr Musk says something about the press and about Mr Musk, and a lot about Twitter. Twitter has never been among the most popular social networks, but since launching in 2006 it has been an efficient means for discovering links to important news and big ideas. Probably for that reason it has been disproportionately valued by those who traffic in such things, including politicians, politically minded celebrities and journalists.

Yet Twitter has also proved to be a lousy medium for discussing important news and big ideas. It disdains nuance, amplifies misstatement and rewards conflict, cruelty and trolling. These are reasons Twitter's most adept user was probably Donald Trump. (In "Confidence Man", Maggie Haberman reports that an aide compared the moment Mr Trump first pecked out his own Tweet, rather than dictating it, to the scene in "Jurassic Park" when dinosaurs discover they can open doors themselves.)

Like Mr Trump, other politicians, celebrities and journalists discovered they could deploy Twitter best to market themselves, courting followers by applauding certain points of view and condemning others. As a result, within the chattering classes, Twitter has become a powerful enforcer of conformity.

When Mr Musk took over Twitter in late October, a kind of mass hysteria seized those obsessed with the platform. Though bemoaning Twitter's toxicity has been a staple of its habitués for years, many became convinced it turned venomous overnight. Then one evening in mid-November, the herd decided Twitter was about to collapse; many wrote poignant farewells, recalling the good times. As Twitter perversely endured, some denizens urged their "followers"—why does anyone embrace that label?—to flee to other platforms, even as they kept tweeting. Mr Musk's decision to allow Mr Trump back onto the platform was the last straw for a few, though why Mr Trump was beyond the pale and Nicolás Maduro just fine was the kind of question Twitter had no time for.

No way to save humanity

The grandiosity and superficiality make for classic Twitter. But it is less amusing that Mr Musk is exemplifying the foolishness. He is at risk of turning himself into a spokesmodel for everything shoddy and obnoxious about his product. There is a principled argument for giving Mr Trump another chance on Twitter, but Mr Musk did not make it. Instead he polled users. He has tweeted insults, sexist tropes and at least one conspiracy theory, and raised doubts even about his idea of free speech. He has delighted in trolling critics. That is understandable (just about everyone who is Twitter-famous does it), but it seems unwise for Twitter's owner to act like just another of its tribal warriors. As Twitter has done to others, it may take his point of view—libertarian, contrarian—and make it harsher, more performative, much less interesting.

Above all, Mr Musk is demonstrating what a frivolous distraction Twitter can be. "The point is to maximise the probable lifespan of humanity," he once told a biographer, Ashlee Vance, in explaining why he was devoted to turning humans into a multiplanetary species. It would be arrogant to bet against Mr Musk, but if civilisational transcendence is the ambition, Twitter seems like a crazier moon shot than SpaceX or Tesla ever was. Maybe he will turn Twitter into the constructive public square he envisions, making it a truthful resource and revitalising America's bloated, unreliable news industry. But, for now, Twitter seems like a waste of his time, even more than it is for everyone else. ■



Venezuela

Oil be back

CARACAS

President Joe Biden starts to lift sanctions on Venezuela

THINGS HAVE changed in Caracas, Venezuela's capital. Traffic jams, absent for years, now clog up roads. Political posters, which used to loom over the city preaching grim mantras such as "socialism or death", have been replaced by advertisements for whisky or cosmetic surgery. The buzz of a motorcycle, once something to fear in the notoriously violent capital, is more likely to herald the arrival of a food delivery than an armed robbery.

Residents, particularly the richer ones, make a sardonic observation: "Venezuela se arregló!" (or, the country "is fixed", as someone may be with plastic surgery). But despite the veneer of better times, which followed the government's decision in 2019 to relax price controls and allow trading in the American dollar, the country's underlying troubles are far from solved. Over the past decade its GDP has shrunk by 70%, and around 7m people, or a quarter of the population, have left the country.

Still, today Venezuela is very different from how it was in 2019. Back then Juan Guaidó, an opposition leader and head of the national assembly, was recognised as Venezuela's acting president by the United States and several other democracies, on the grounds that Nicolás Maduro, an unpopular left-wing despot (pictured), had rigged an election. (In the absence of a legitimate president, the constitution allows the head of the national assembly to take the reins, pending new polls.)

But Mr Guaidó and his backers misjudged the loyalty Mr Maduro and Hugo Chávez, his predecessor from 1999 to 2013, had bought from the military's top brass. They underestimated the regime's ruthlessness. And they have been wrongfooted by the war in Ukraine, which means that the United States is rethinking its relationship with oil producers.

Today Mr Guaidó, although still referred to as "president" by the United States and Britain, wields no power. Better described as one of several opposition leaders, he spends most of his days fielding Zoom calls from a spartan office above a shopping centre. The constitutional basis for his claim to power is becoming weaker. The elected national assembly he led was replaced by one controlled by Mr Maduro's regime after a dodgy vote in 2020. And his term as president of the assembly expires on January 5th. It looks unlikely that his opposition colleagues will elect him again.

By contrast, Mr Maduro is still very much in power after nine years. And in the past six months the pendulum of geopolitics has swung in his favour. Venezuela sits on 20% of the world's proven oil reserves, more than any other country. The war in Ukraine has made everyone more nervous about oil supplies, and therefore made the cost of isolating Venezuela seem higher. After decades of mismanagement Venezuela's oil industry is too run-down to make much difference to global oil markets in the short term, but the United States and others are thinking about the long term.

Under Donald Trump, the United States imposed sanctions on Venezuela's oil, banking and mining industries as well as more than 140 regime insiders. President Joe Biden, by contrast, is cautiously re-engaging with Venezuela. Mr Biden's envoys have met members of Mr Maduro's government twice in Caracas. In October, seven ▸

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American citizens imprisoned in Venezuela were exchanged for two nephews of Mr Maduro's wife, Cilia Flores.

And on November 26th the Biden administration made a notable shift. It gave Chevron, an American oil firm which has four dormant joint ventures with PDVSA, Venezuela's state-owned oil giant, a limited licence to pump and export oil to the United States again. There are strings attached. The proceeds are meant to pay down the billions of dollars of accumulated debt Venezuela owes Chevron. Payments of royalties or taxes to the regime, or any dividends to PDVSA, are prohibited.

Crude diplomacy

The quid pro quo is that the regime agreed to resume negotiations with the opposition, which it had suspended in October 2021. These restarted in Mexico City on the same day as the American announcement. Mr Maduro is not attending the talks himself (his son, Nicolás Maduro Guerra, is going). But they are another step towards easing Mr Maduro's pariah status.

A display of that came in November, when Mr Maduro made a rare overseas visit. It was to the COP27 summit in Egypt, where Emmanuel Macron, France's president, greeted him on the sidelines. The two men spoke for less than two minutes, but broke down years of barriers. Mr Macron addressed Mr Maduro as "president," even though France does not officially recognise him as legitimate. Things "keep getting better", beamed the Venezuelan.

Mr Maduro also managed to secure a brief conversation with John Kerry, Mr Biden's climate envoy. This was a small victory for the Venezuelan autocrat, given that the United States has indicted Mr Maduro on charges of "narcoterrorism" and is offering a $15m reward for information leading to his arrest. The State Department later said he had caught Mr Kerry by surprise.

Events closer to home are also helping the tyrant come out of the cold. The victory of Luiz Inácio Lula da Silva in Brazil's presidential elections means all the region's main economies will soon be led by left-wing governments, which are generally less hostile to Mr Maduro than previous right-wing ones were. When Lula, as he is known, takes office in January, he is expected swiftly to resume diplomatic relations with Venezuela's regime.

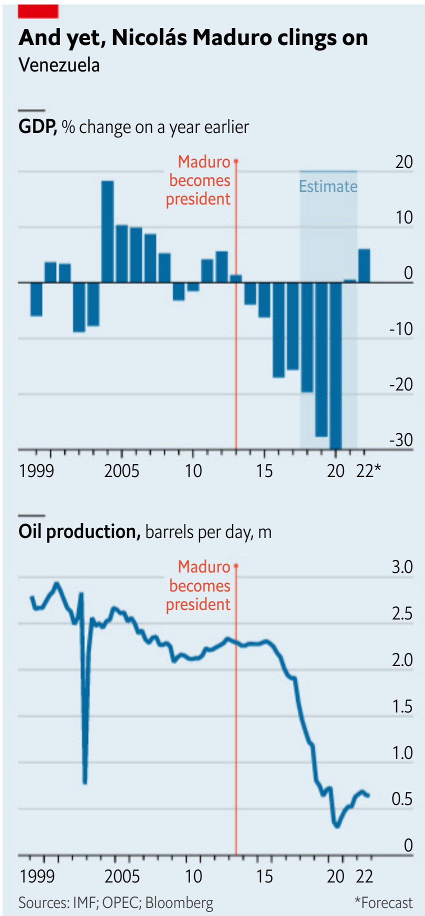
Already Colombia's government, under Gustavo Petro, the new left-wing president, has begun to repair relations. On November 1st Mr Petro became the first Colombian leader in a decade to be received at the presidential palace in Caracas (he is on the left of the picture). "Colombia and Venezuela have a common destiny," Mr Maduro said. He meant it as a compliment.

But foreign governments are taking a gamble by cosying up to Mr Maduro. For a start, Venezuela's oil may be plentiful, but it is problematic. It is heavy and laborious to refine. After years of mismanagement and corruption much of the infrastructure of PDVSA is in ruins. Production this year is expected to average 650,000 barrels a day, a fraction of the government's own target of 2m and less than a fifth of its pre-Chávez output of around 3m in 1998 (see chart).

It will take until 2024 for a significant amount of oil to reach markets, says Ángel Alvarado, an opposition congressman who is now at the University of Pennsylvania. Even if Venezuela were to produce 1m barrels a day by 2025, that would only be about 1% of current global production. To achieve this other foreign firms such as Spain's Repsol or Italy's Eni would need to be able to operate without restrictions.

It would also require a huge increase in foreign investment, which seems unlikely. Estimates vary widely but José Toro Hardy, a former director of PDVSA, thinks that $25bn a year would be needed for eight years for the company to produce as much oil as it did two decades ago. Given the regime's record of stiffing creditors and mistreating investors, that is for now an implausibly vast sum.

Second, Mr Maduro's record also suggests that at the negotiating table he will not play fair. The deal being sought is,




President Petro and petro-despot

broadly, that the regime agrees to hold presidential elections with enough safeguards that they could be deemed free, and the opposition agrees to take part. The Biden administration could offer more of what it describes as "sanctions relief" if steps are made towards returning Venezuela to democracy. But Mr Maduro is unlikely to agree to an election clean enough that he might actually lose.

Perhaps, though, he believes he could win a legitimate vote. Mr Maduro's approval rating is 26%, according to Datanalisis, a pollster. That is low, but only slightly worse than the most popular opposition leader, Manuel Rosales, the governor of Zulia state, who is at 30%. And he is well above Mr Guaidó, who polls at 16%. The pro-regime governor of Carabobo state, Rafael Lacava, has a 40% approval rating, but has never indicated he will stand against Mr Maduro and could become an asset to the president's re-election campaign.

Another possibility is that the regime plans to go through the motions of being prepared to take part in a clean election, but will never submit itself to voters' wishes. Mr Maduro is already playing hardball with the United States. On November 30th he said free elections would only be possible if "all sanctions" were removed.

However, those who say that any discussion is better than a stand-off point to some non-electoral issues on which the two sides might agree. One is access to around $3bn of Venezuelan government assets, currently frozen in American and European banks. As the talks began in Mexico the two sides agreed to establish a United Nations-managed fund, initially focused on infrastructure improvements, including repairing the country's electric grid and building schools.

An agreement on the format for elections is not expected to be settled in the

Bello The coming swing to the right

The left's recent triumphs in Latin America may prove short-lived

When Luiz Inácio Lula da Silva of the left-wing Workers' Party won Brazil's presidential election in October many commentators rushed to colour the map of Latin America red. In January, for the first time, all of the seven most populous countries will have left-of-centre governments. Some saw this as a fundamental change, likening it to the "pink tide" of the early 2000s, in which Lula (as he is known) and Venezuela's Hugo Chávez were prominent. That swing to the left lasted over two or more presidential periods.

Look more closely, however, and there are reasons to believe that a swing to the right is about to begin, and it may prove more profound. For a start, the main trend in recent elections has been anti-incumbency: an opponent of some kind or other has won the past 16 free presidential contests in the region. Economies have slowed and governments have generally struggled since the end of the commodity boom that benefited Chávez, Lula and the others. And political cycles have become shorter.

The swing back to the right is likely to start in Argentina's presidential election in October next year. The ruling leftist Peronists have failed to control inflation and are divided. Presidential elections in Paraguay and Guatemala next year are also likely to favour the right.

And despite the prevailing discontent with incumbents, some of the left's victories have been narrow. Lula won by just 1.8 percentage points against Jair Bolsonaro, the right-wing populist president, whose record on the pandemic was disastrous. In Colombia this year Gustavo Petro, a leftist, won by three percentage points against Rodolfo Hernández, an eccentric outsider. Both victors were mistrusted by many voters. In Lula's case that was because of corruption and economic mismanagement when his party was last in power. Meanwhile Mr Petro was viewed with suspicion because of his past enthusiasm for Chávez, his tendency to pick fights and his chaotic tenure as mayor of Bogotá, the capital.

Left-wing politicians benefit from concerns over inequality and poverty. Nevertheless, and this is the third factor potentially helping the right, the string of leftist victories does not reflect big shifts in voters' ideological preferences.

LAPOP, a regionwide opinion poll, shows that around half of respondents identify with the political centre and around 20% each with the left and the right. These figures have not changed much for a decade or more. But there is a caveat: LAPOP finds that identification with the right increased in Brazil from 18% in 2008 to 32% in 2019 (its latest finding), with smaller increases in rightist sympathy in Argentina.

There may be several reasons for this. One is a rise in support for conservative values of religion, family and *patria* (fatherland). "Religiosity probably hasn't increased but it probably has become a more important factor in how people vote," says Noam Lupu of LAPOP. Another, says Esther Solano of the University of São Paulo, is a fear of falling in the social order. This is marked among members of the fragile new lower-middle class, who see themselves as self-made and favour economic freedom. Elsewhere, the left's championing of indigenous peoples has prompted a recent defence by some conservative polemicists of the "civilising" value of the Spanish colonial conquest of America.



Another factor is crime, for which the right tends to offer a tougher rhetoric and for which the left has few answers. Lastly, as Ms Solano notes, right-wingers tend to be more "digitally native" on TikTok and other social-media platforms. The left is less adept at communicating digitally with younger people.

These trends have coincided with the resurgence of the hard right in Latin America, influenced by Trumpism and European populism. It has recently held get-togethers in Brazil and Mexico. Yet its rise may be the biggest problem for the broader centre-right.

In Argentina Javier Milei, a libertarian gadfly who attracts the aspirational TikTok generation, poses a serious threat to Horacio Rodríguez Larreta, the mayor of Buenos Aires. Mr Rodríguez, of the mainstream centre-right, might otherwise expect to win the presidency easily. In Chile's presidential election a year ago Gabriel Boric of the left won partly because his conservative opponent, José Antonio Kast, was too extreme. Tendencies are not inevitabilities. But the underlying message is that the left has much work to do if it is to consolidate its recent successes.

first round of talks. But once that is decided, there remains the question of who will be the candidates. Mr Maduro is expected to stand uncontested from within the ruling PSUV party. On the opposition side, there are currently at least 20 candidates, including Mr Guaidó, on the shortlist. Originally there were more than 80. "That's the trouble with the Venezuelan opposition: they all want to be president," rues a diplomat in Caracas.

The precise timing of the election is also a matter for debate. While the constitution stipulates it should be held six years after the previous one—so, in 2024—some in the government, including Diosdado Cabello, a powerful former national assembly chief, have hinted at the possibility it might be held within months. Such a decision would be made by the electoral council, which the regime still controls.

This could be part of a tactic to flummox an opposition which has yet to organise itself. But it would also help Mr Maduro and his cronies. Despite the Biden administration's less hostile stance, the myth that "Venezuela is fixed" may be about to unravel. According to the regime's own figures annual inflation reached 340,000% in February 2019. It was then tamed by the use of the dollar, but is rising again. It is now 155% year-on-year, the highest in Latin America. The black-market value of the bolívar against the dollar fell by 43% in the first four weeks of November, and the central bank is apparently running short of funds to prop it up.

For years the opposition, backed by the United States, has been calling for early presidential elections. Mr Maduro might be tempted to call its bluff, and go to the polls before the bubble bursts. ■



America's Asian allies

When the chips are down

SEOUL, SINGAPORE, TAIPEI AND TOKYO

Asian countries are reluctant to join America's tech war on China

AMERICA HAS declared a technology war on China. In August Joe Biden signed the Chips and Science Act which includes $52bn in incentives and subsidies to ramp up semiconductor manufacturing in America. The president's landmark Inflation Reduction Act was passed the same month, with subsidies for made-in-America electric vehicles and the like, meant in part to bring supply chains back from China. In October Mr Biden announced unprecedented curbs on tech exports, intended to cut Chinese companies off from advanced semiconductors made anywhere in the world with American equipment or know-how. The aim is to control China's rise, by thwarting technological development that could boost its capabilities, especially in the military and cyber spheres.

Those waging war usually seek allies. America is duly leaning on its Asian friends, including Japan, Singapore, South Korea and Taiwan (which makes nine-tenths of the world's advanced semiconductors), to join the tech fight against China. For example, it has for months been urging Japan, another tech giant, and the Netherlands, home to ASML, a crucial supplier of chip-manufacturing technology, to enshrine its tech goals in a trilateral pact.

The Asians are somewhat reluctant to play ball. It is not that they fundamentally disagree with America's analysis of the risks of China's rising power and capabilities. And none of them wants America to abdicate its role as the guarantor of security in the Indo-Pacific region. But they dislike being seen to be bossed around. And they have much less appetite than America for a Manichean superpower struggle. Nearly all the countries of the region have deep economic ties with China that they are loth to rupture.

That even goes for Taiwan, the world's pre-eminent semiconductor powerhouse, which is firmly in the Western camp and subject to relentless Chinese bullying. China accounts for over a quarter of the global annual demand for semiconductor equipment. About 60% of the chips Taiwan makes are sold to it, Tony Phoo of Standard Chartered, a bank, estimates. Yet Taiwan relies so heavily on American companies for business, and on the American government for weapons, that it has little choice but to comply with America's export-control regime and cut sales of advanced chips to China. Economists expect that to hit Taiwan's growth next year.

Until recently, strategic competition in Asia ran on parallel tracks to the story of Asia's growing economic integration. Now competition has jumped the tracks and careened into the economic story. For now, Asian officials say, there is no point in challenging the American line. Some Asian firms are even taking measures to go along with it. With the help of subsidies, TSMC, ▸

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the world's leading chipmaker, is building a foundry in Arizona, and another in southern Japan. South Korea's Samsung Electronics is building a chip-plant in Texas. This week Mr Biden visited a South Korean semiconductor facility in Michigan.

Such "friend-shoring", a euphemism for shifting sensitive operations out of or farther away from China, helps allay American fears over high-tech supply chains. But, say Asian policymakers and companies, there are limits to it.

In the case of Taiwan's chipmakers, even if some production moves to America, the development of next-generation chips continues to take place on the island. It has a complex and thriving research environment involving hundreds of established companies and institutes that cannot simply be packed up and exported, even if the political will to do so existed. Many Taiwanese view the semiconductor industry not only as a source of jobs and prosperity. They see it as Taiwan's security guarantee: without it, they say, America and its allies would be less likely to defend the island if it is attacked by China. The industry is known locally as the *huguo shenshan*—the magic mountain that protects Taiwan. President Tsai Ing-wen calls its semiconductors "democracy chips".

In South Korea, there is resentment over American protectionism benefiting home-grown firms. In theory, foreigners manufacturing in America are eligible for subsidies. But local-content rules are hard to satisfy. South Korean makers of electric vehicles in America transgress them because they use Chinese batteries.

Japan will probably sign up to America's agenda in the end, but at a cost. Chipmaking equipment is Japan's second-biggest source of exports, and a third of it goes to China. When it comes to semiconductors, a Japanese official recalls telling an American counterpart, "our interests and your interests are not identical." Japanese companies also specialise in sophisticated components for high-tech products that are not covered by the American restrictions. But what if, say, Chinese-made smartphones that contain them end up being covered? As a minimum precaution, some Japanese tech companies, such as Murata, which supplies smartphone-makers, may need to create twin supply chains, one facing America, the other China.

Perhaps, a Singaporean expert suggests, the American approach will not prove to be as draconian as many fear. Certainly, China will be denied the top slice of the most sophisticated chips, with implications for those supplying them. But the hope of some in the Biden administration for a complete bifurcation in tech trade between Chinese and American spheres may prove to be forlorn. American companies are lobbying hard against it. The majority of iPhones, it should be noted, are still produced in China. The task of decoupling American and Chinese supply chains looks to many—including some other members of the administration—to be just too big to be realistic.

But what if America persists? Andrew Yang, a Taiwanese former deputy defence minister, is indeed convinced it will step up its efforts, because "China is [America's] number one competitor." That logic is amplified by Evan Feigenbaum of the Carnegie Endowment for International Peace, a think-tank in Washington, DC. America, he says, is trying to elicit from its friends "voluntary compliance. And if it cannot…[it] is going to bring the hammer down." Yet as America's competition with China intensifies, can it really afford strained relations with its Asian friends? ■



Taiwan's elections

Across the Strait, a lockdown protest

TAIPEI AND TAOYUAN

Taiwanese voters give the Democratic Progressive Party a kicking

THE KUOMINTANG (KMT) is one of the few remaining Taiwanese institutions to hold that China and Taiwan are one country. And the party of Chiang Kai-shek, which fled to the island in 1949 after its defeat by Mao Zedong's Red Army, has suffered for that anti-independence position. Polls conducted in the run-up to Taiwan's local elections on November 26th found that most Taiwanese believed they had a separate cultural identity from China. Support for independence was at nearly the highest level on record, while support for the KMT was at 14%, a record low.

Yet the KMT did much better in the elections—and the ruling Democratic Progressive Party (DPP) much worse—than this would suggest. Among over 11,000 posts up for grabs, the most prestigious were for 21 mayors and county commissioners. The KMT won 13, including plum positions in Taipei and northern Taoyuan, giving it control of four of the island's six biggest cities. Underlining its resurgence, a great-grandson of Chiang, Wayne Chiang Wan-an, was elected mayor of Taipei. The job is often seen as a route to the presidency.

The pro-independence DPP suffered its worst thrashing in over three decades. It won only five of the top jobs, including none in the island's north and centre. The island's DPP president, Tsai Ing-wen, announced that she would resign as the party's chairwoman to atone for the disaster.

At a time of high tension across the Taiwan Strait—following an unprecedented series of Chinese military exercises in August—these were striking results. Yet they probably do not signal change in Taiwanese sentiment towards China, which has never played a big role in local politics. As elsewhere, voters mainly seemed anxious about the economy and aggrieved by the coronavirus-related strictures their leaders had placed on it. While Taiwanese technology firms thrived during the pandemic, many small businesses were hard hit by bans on indoor dining and entertainment.

The KMT's local patronage networks—developed during its 40 years of single-party rule—made it well-placed to exploit anti-incumbency sentiment. The opposition party did not project a unified campaign message. Its candidates mostly talked about their individual records or the government's failures. At a KMT rally in Taoyuan, not even Taiwan's usual campaign festivities (including a troupe of saxophonists illuminated by disco lights beside a red-eaved temple) could raise the electoral mood. Many in the crowd griped that the DPP had not kept its promises.

Ms Tsai launched a late effort to make the vote a show of defiance to Beijing. "We will use our votes to let the world see that Taiwanese people are determined to uphold freedom and democracy," she declared. It got her nowhere. Albert Chiu of Tunghai University in central Taiwan suggests many Taiwanese are tired of squabbles over national identity, especially after Ms Tsai's refusal last year to accept an offer of much-needed vaccines from China during a severe covid outbreak. Prudently, China gave the DPP leader no added cause for grievance during the campaign. Unlike in previous elections, according to Joseph Wu, Taiwan's foreign minister, the government in Beijing made no significant effort to sway Taiwanese voters.

If the results were driven by domestic

concerns, they could have geopolitical consequences. China does not trust the KMT, but much prefers it to the DPP. The election may persuade it that Taiwan is not drifting inexorably towards independence. China praised the results, claiming in a statement that they "revealed that mainstream public opinion on the island is for peace, stability and a good life."

Ms Tsai, a skilled diplomat attuned to American feeling on Taiwan, will now take a back seat as her party looks for a candidate for the presidential election due in 2024. It will probably be her vice-president, William Lai, a more forthright advocate of independence. The KMT would hope to deny him. Yet it may need to adopt a more popular position on China before it can challenge for national power. Its recent triumph may make that less likely. ■

Pakistan's latest crisis

Hail the chief

ISLAMABAD

Imran Khan has it in for the army

The Malacca cane symbolises arguably the highest power in Pakistan. On November 29th the cane, a ceremonial baton of command, changed hands for the first time in six years when General Qamar Javed Bajwa handed it to General Asim Munir, anointing him army chief.

General Munir, who used to head Pakistan's powerful spy agency, ISI, will now run the country's most powerful institution and self-appointed arbiter of Pakistani democracy. Army chiefs are hired by the prime minister. They often return the favour by deposing their appointer. This is the main reason none of Pakistan's 22 prime ministers has completed a full term, and none knows it better than the incumbent, Shehbaz Sharif. His elder brother Nawaz, a three-time former prime minister, appointed Pervez Musharraf army chief in 1998, then was toppled by him in a coup. In 2016 Nawaz appointed General Bajwa and, allegedly at the army chief's behest, was duly stripped of his office by the Supreme Court and banned from politics for life.

If Shehbaz Sharif fares better at General Munir's hands, it may be because of his predecessor, Imran Khan. A former army favourite (who was helped to power by General Bajwa), Mr Khan was ousted in a vote of no-confidence in April which, yet again, had the army chief's handprints all over it. A charismatic rabble-rouser and conspiracy theorist, Mr Khan promptly accused General Bajwa of plotting with America against him. After this accusation helped his party win a clutch of by-elections, he upped the ante. Mr Khan accuses a senior army officer, Mr Sharif and the interior minister, Rana Sanaullah Khan, of orchestrating an assassination attempt that left him wounded last month.

General Bajwa tried to put Mr Khan in his place by inducing the current ISI boss and other bigwigs to denounce him. If anything this increased Mr Khan's popularity—which extends to the army's rank-and-file. The former prime minister may be the biggest domestic challenge Pakistan's generals have faced. Tens of thousands flocked to hear him at a rally in Rawalpindi—the army's main garrison—last week. "I'm more worried about the freedom of Pakistan than my life," he thundered, while seated because of his bullet wounds.

General Munir must be worried. Yet his best hope of foiling Mr Khan, General Bajwa's blundering suggests, is to sit tight. Mr Khan wants an election and is threatening to dissolve the assemblies of Punjab and Khyber-Pakhtunkhwa, which his party controls, to try to force one. But dissolving Parliament is Mr Sharif's prerogative, and he has vowed to carry on until its term ends in August. The army chief should support that constitutional process.

He has duties of his own to attend to. The Pakistani Taliban have abandoned a ceasefire. Relations with the Afghan Taliban are poor. And the economy, stricken by pandemic shocks, political turmoil and floods, cannot afford any additional stress.

Pakistan has enough foreign-currency reserves to cover only a month of imports. The risk of default in the bond market has soared. Past army chiefs might have considered that such dire circumstances warranted a military intervention. General Munir would distinguish himself by utterly disdaining such nonsense. ■



Don't do it, Munir

New Zealand's gangs

Mongrel mobsters

ROTORUA

Kiwis have a gang problem. Australia is only partly to blame

After Ihaka's father died, his mother hit the bottle and the Maori teenager got into drugs. "I had all these mental frustrations that I didn't know how to cope with," he recalls, now aged 24 and awaiting trial for assault. "My family disowned me so I ended up living on the streets. That's how I became a gang member."

Such stories are common among New Zealand's Maori minority. They are the main reason the country of 5m has dozens of mainly Maori gangs and one of the highest rates of gang membership in the world. "The gangs gave me a sense of belonging and a purpose," said Ihaka, speaking at a rehabilitation centre for former gangsters in Rotorua, a sulphurous town on the country's North Island. "They showed me what the true meaning of family was." Many others on the programme—mostly well-built Maori inked with gang slogans and insignia—said similar things. They claimed to have been drawn to gangs in search of *whanau,* family.

As a messy form of community-building among the country's indigenous people, the gangs have a degree of acceptance. Members of Black Power, which has been around since the 1970s, performed a haka at the funeral of Robert Muldoon, a former conservative prime minister. A chapter of Mongrel Mob, the biggest Maori gang, has a press officer. Yet recent growth in both gang membership and, on its heels, gang violence is causing serious concern.

Gang membership is estimated almost to have doubled since 2016, to over 8,300. And official figures probably underestimate the problem, says Billy McFarlane, a former methamphetamine dealer who runs the rehab programme in Rotorua. He reckons around 30,000 Kiwis are "closely involved" with gangs. The growth is causing turf wars. During two weeks in May and June the city of Auckland saw 23 drive-by shootings in a feud between two motorcycle crews, the Tribesmen and Killer Beez.

Many New Zealanders blame the upheaval on their usual bugbear: Australia. It has repatriated several mob bosses under a policy of deporting long-term foreign residents who commit crimes. The former gangsters in Rotorua said the returnees had brought a more ruthless culture. They "bring heaps of bullshit with them that New Zealand never had before", said Ihaka.

The police broadly agree. The deportees have links to transnational crime groups,

says Greg Williams, head of New Zealand's organised-crime police department. Some have also established rival gangs. The Comancheros, an Australian biker group with a penchant for gold-plated motorcycles, set up a Kiwi chapter in 2018. The new arrivals often poach members from established mobs. That makes "some of the local gangs arm themselves and be ready for heavier violence", says Mr McFarlane.

Yet the gangs were becoming more organised even before the repatriations on the back of their main business, dealing drugs. They have almost a monopoly on the supply of methamphetamine, which has a street price in New Zealand up to 20 times higher than in America. Mr Williams estimates that gangs make NZ$300m ($279m) a year dealing meth alone. Many mobsters are hooked on it.

The violence has become a big political issue. The conservative opposition party, National, wants to ban gang insignia. The Labour government, led by Jacinda Ardern, generally takes a more careful approach; though it is recruiting more police officers. "We need to get to the root causes," says the police minister, Chris Hipkins.

Mr McFarlane's programme, in which he teaches Maori offenders about their language and culture, looks like a good start. The former drug-dealer talks of helping them "find a sense of direction, and stop[ping] the flow of our people in and out of prison." Jail can exacerbate the problem. Roughly a third of inmates in New Zealand are gangsters, which makes prisons mob recruiting grounds. "Everything I was looking for in my life was in jail—all my bros that I grew up with," says Makiha Mihaka, a former member of the Mongrel Mob. It was there, he says, that "I grew as a mobster." ■

Banyan Pilgrim's progress

Narendra Modi is keeping his promise to build a temple in Ayodhya. Now what?

Ayodhya, a town on a tributary of the Ganges, is believed to have been the birthplace, 7,000 years ago, of Lord Ram, a major Hindu god. Evidence of the divine event is naturally wanting. "Only four things remain here of that era: the name of the lord, the soil on which we stand, the river that flows alongside, and the faith of the devout," Ajay Kumar Pandey, a local resident with "Lord Ram" daubed on his forehead, told Banyan during a visit to the town this week.

Undeterred by that lacuna, on December 6th, 1992, a Hindu mob demolished a 16th-century mosque that they believed had been erected by Muslim invaders on the precise spot where Lord Ram was born. Egged on by members of the Hindu-nationalist Bharatiya Janata Party (BJP), this act of desecration sparked riots across north and west India in which over 2,000 people died. It also laid the ground for the rise of the BJP as a national force. Which, in due course, led to the premiership of Narendra Modi, who won election in 2014 in part by promising to build a Ram temple on the site of the destroyed mosque. As the 30th anniversary of its demolition approaches, your columnist wanted to gauge his progress.

After a long legal battle, India's Supreme Court ruled three years ago that though the mosque's destruction was "an egregious violation of the rule of law", Hindus could still build a temple where it had stood. The temple, which is being paid for with public and private money, is scheduled to open in early 2024, a few months before India's next general election. A vast monument constructed in marble, sandstone and teak, it will contain three storeys and 392 pillars. But for now it is a building-site, mainly visible from a makeshift shrine erected nearby.

Security is heavy. Before gaining admission to the shrine, devotees must deposit their belongings in lockers far from it, then queue for three rounds of frisking. Beyond the checkposts, the pathway is guarded by bored-looking paramilitary troops toting automatic weapons. Then, at a point along a mesh-wire-fenced walkway, the expansive plinth of a what will soon be a soaring stone edifice comes into view. The crowd whoops at the first glimpse, chanting "Victory to Lord Ram". For many, the sight of the construction is at least as inspiring as the shrine.

The temple will be the fulfilment of a promise that has been at the heart of BJP politics for more than three decades, and Mr Modi will claim huge credit for it. An early agitator for the temple, he laid its foundation stone and last inspected the site in October, ahead of Diwali. He has helped realise other cherished Hindu dreams, too. He has robbed the Muslim-majority state of Jammu and Kashmir of its special status. Muslim men's hideous custom of granting themselves an instant divorce has been criminalised. So what comes next?



An optimist might imagine Mr Modi and his party pocketing their Hindu nationalist triumphs and focusing on the other main pillar of their policy agenda: economic development. Ayodhya also illustrates the desperate need for that. Locals complain that the town lacks basic services such as clean water, medical facilities and garbage disposal. Surveys have consistently found that most Indians care far more about such economic matters than religious ones. In a recent poll of voters in Uttar Pradesh (UP), the vast northern state that includes Ayodhya, 74% considered inflation and development very important issues, while only 40% said the same of the Ram temple. If Mr Modi set Hindu populism aside and focused ruthlessly on such matters, he could be great.

A realist must reluctantly consider that unlikely. Because, as Ayodhya ultimately shows, it is much easier to build a temple than an economy. And if only a sizeable minority of Indians care deeply about such gestures, they are easily sufficient to put their champion in power. Mr Modi won a historic parliamentary majority in 2019 with 37% of the vote.

Moreover, even if the prime minister wished to set Hindu rabble-rousing aside (for which there is no evidence), the Hindu activist network he emerged from will not. Its members have their sights fixed on a 17th-century mosque in Varanasi, built on the site of an older Hindu temple, and on other Muslim sites around the country. Even the iconic Qutb Minar, a 12th-century minaret in Delhi, may be imperilled. The Ram temple at Ayodhya was for the BJP never a concrete or isolated issue. It was a blueprint for winning power. And Mr Modi will keep that plan to hand long after Ayodhya's giant Ram temple opens for prayer.

Crimes against Indian women

How the other half live

DELHI

Two murders, a decade apart, illustrate the violence suffered by India's women

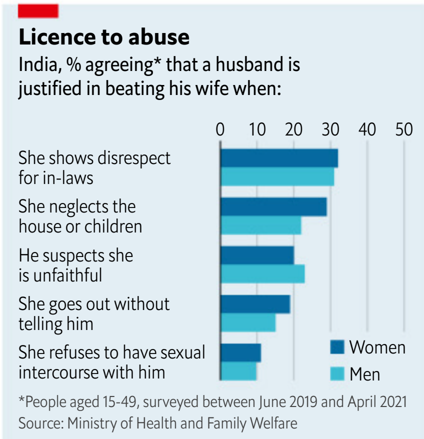
On a cold December night ten years ago a 23-year-old physiotherapy student on her way home from the cinema boarded a bus in the suburbs of Delhi. As it rattled around India's capital, Jyoti Singh was raped and mutilated by six men, including the driver, and dumped by the roadside. She died of her injuries two weeks later. The case provoked global revulsion and sober promises from Indian politicians to make the country safer for women.

Yet, a decade on, the killing of another young professional woman in Delhi has underlined the peril that millions of Indian women still face. Shraddha Walkar, a 27-year-old call-centre worker from Mumbai, disappeared in Delhi six months ago. She had previously, it emerged, filed a police complaint against her partner, Aftab Poonawala, accusing him of beating and threatening to dismember her. He was arrested this month and, the police say, confessed to killing Ms Walkar and chopping her into 35 pieces, which he stored in a specially purchased freezer before dispersing them around the capital. (His lawyer denied that he had confessed to the crime.)

Ms Walkar's killing, which has dominated national news, is a reminder that most violence against Indian women happens at home. Reliable statistics are hard to come by, but those that exist suggest domestic abuse is routine. Some 30% of currently or previously married women aged between 18 and 49 told the National Family Health Survey they had been subject to it. Of those who said they had experienced sexual violence, 96% said a husband or former husband was the perpetrator. Delhi recorded six cases a day of rape and 15 of cruelty by a husband or in-laws during the first half of this year, which activists reckon reflects a tenth of the total. Securing a conviction in such cases can take years.

The backlash to Jyoti Singh's murder did lead to progress. "It forced members of the elite and the middle class to consider that it could be them," says Shrayana Bhattacharya, an economist and author of a book on Indian women. The case led to the creation of a special commission, on whose recommendation parliament passed several laws making it easier to prosecute sexual assault and related offences such as stalking or voyeurism. Fast-track courts were set up to try rape cases.

For a few years, the share of victims who report sex crimes to the police went up. Then it levelled off. Some states are trying to tackle this, for example by hiring more female cops and creating women's help desks or all-female police stations.



Recent efforts to bolster women's status could be even more beneficial. The Supreme Court has played a particular role in promoting equality. It has expanded women's right to inherit property, expanded access to abortion for single women and stressed sexual autonomy in relationships in a ruling that decriminalised adultery. It also ruled that the Muslim practice of "triple talaq", an easy divorce option for men (but not women), was unconstitutional.

Yet legal and institutional responses go only so far. Social attitudes matter more and are harder to change.

There are some signs that harassment in public spaces is becoming less acceptable, particularly in cities. "Urban women no longer take any nonsense," says Ranjana Kumari, the director of the Centre for Social Research in Delhi. Yet things look bleaker in the home. Over half of Indian men and women say it is acceptable for husbands to beat their wives on occasion (see chart). The marital exemption for rape has been challenged in the Supreme Court but continues to enjoy majority support.

Laws to protect women are often used against them. Research by Rukmini S, a journalist, suggests women are often pressed into making bogus rape allegations against a partner of whom their relatives disapprove. Several states have passed laws against "love jihad", a conspiracy theory that Muslim men are seeking to lure Hindu women away from their faith, thereby making inter-religious relationships even harder than they already are.

On the flipside, where women are in danger, social pressures can impede the law. Ms Walkar later retracted her police complaint against Mr Poonawala, allegedly under pressure from him and his family.

The best answer to the violence, ultimately, is empowering women. The more educated, free to choose a mate and economically independent women are, the less they are abused. This suggests big improvements will take time.

Indian women are becoming more educated, albeit from a very low base. The number entering university increased by 18% between 2016 and 2020. And though over 90% of marriages are arranged, here too there is progress; middle-class women increasingly decide whom they marry. Yet the share of Indian women who work was among the lowest in the world even before the pandemic sent it even lower. It is only beginning to recover. "A woman, a mother holds the highest position, highest regard in our country," Narendra Modi, the prime minister, once said. If only it were true. ■



Too much to complain about



Protests in China

Echoes of the past

The largest wave of unrest in China since the Tiananmen Square protests of 1989 may not threaten Xi Jinping's grip on power. But it will alarm him

CHINA'S LEADER, Xi Jinping, often warns officials of the risk that Communist Party rule could unravel. He has told them to beware of efforts by "hostile forces" to foment a "colour revolution" in China: "a present danger", as he sees it. He has ordered them to be alert to "foreseeable and unforeseeable" perils that could "evolve into political threats if not managed promptly and effectively". He has repeatedly reminded them of how the Soviet Communist Party fell in 1991. The word he uses to convey that moment is *hualala*. It is a crashing sound.

Mr Xi's calls for vigilance began in better times for the party, when China's economy was still growing strongly and America had not yet launched its campaign to keep China's rise in check. Imagine, then, how he now feels as he surveys the challenges—an economy choked by his efforts to crush covid-19, a virus that threatens to defy his draconian controls and a public that is showing signs of growing anger at pandemic restrictions (see Briefing). In recent days China has experienced the biggest wave of unrest since the pro-democracy upheaval of 1989. Between November 25th and 27th protests swept across several Chinese cities. They were triggered by an outpouring of sympathy for ten people who were killed by a fire in an apartment building in Urumqi, the capital of the far western region of Xinjiang. Protesters believe lockdown measures contributed to the deaths. Some demonstrators have gone further than mourning. They have called for Mr Xi and the party to relinquish power.

The protests subsided as police moved decisively to prevent further gatherings (see Chaguan). But as someone so mindful of his own party's history and that of other communist countries, Mr Xi will shudder at some of the echoes of the past. Students have gathered on numerous campuses, calling not only for freedom from covid-related lockdowns, but also broader political freedoms. Their actions recall the early days of the protests 33 years ago, when students seized an opportunity—official mourning for the death of a reformist leader—to press for political change.

On November 30th another leader, Jiang Zemin, died at the age of 96 (see Obituary). He is not remembered for being politically liberal when he ruled the country in the 1990s and early 2000s. But among some Chinese those times are remembered as less repressive, and Mr Jiang as someone who, unlike Mr Xi, had an affable, outgoing side. Disaffected Chinese may highlight that difference as a way of poking at Mr Xi. Some may even mourn Mr Jiang, who in his later years became the subject of viral internet memes. He ruled China in boom times, when the country's rise seemed less beset by obstacles.

The recent campus unrest resonates with events long predating the Tiananmen Square upheaval. The party's own birth in 1921 took place amid intellectual ferment generated by student-led protests two years earlier. The May Fourth Movement, as it is known, was the grand progenitor of student activism in China.

The party prefers to remember it as an outpouring of anti-Western sentiment. ▸▸

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Participants were enraged by the giving away of German-held territory in China to Japan by the victors of the first world war. But it also spawned inquiry into what had made the West strong. Many concluded that the essential ingredients were science and democracy. In 1989 student protesters liked to present themselves as latter-day May Fourth campaigners, fighting for a long-neglected goal. On November 27th, at Tsinghua University in Beijing, a protester appeared to reflect a sense widely shared during the Tiananmen upheaval that students have a duty conferred by history to lead the fight for political freedom. "If we dare not speak out because we are afraid of being arrested, I think our people will be disappointed in us," she told a campus rally joined by several hundred students (see story on next page).

There have been echoes of 1989, too, in the songs and slogans of the recent protests. As it was then, the Communist anthem, the "Internationale", is a favourite. It plays a dual role in China. On July 1st last year, at a celebration of the party's 100th birthday in Tiananmen Square, Mr Xi led a rally of thousands of people in singing its famous lines: "Arise, slaves afflicted by hunger and cold..." Protesters belt out the same words, thinking of themselves as the slaves of the party.

"We want to be citizens, not slaves," has also been a popular chant lately, among students as well as people from other walks of life who have joined gatherings on busy streets in Beijing, Shanghai, Guangzhou and elsewhere. The words are those used by a lone protester on banners that he tied to a bridge in Beijing on October 13th, days before a five-yearly party congress. He was swiftly arrested, but his daring action has sparked protests in sympathy involving mainland students at numerous Western universities—the most widespread of their kind in decades.

The bickering back then

Mr Xi may take comfort, however, from differences between the recent unrest and events in 1989. A crucial enabling factor in the growth of the Tiananmen Square protests (they spread nationwide, affecting most big cities) was division and dithering among China's leaders. The rifts among them were huge and obvious. On one side were reformers who wanted to give market forces a freer rein and create a more relaxed political climate. Conservatives wanted the opposite. Their bickering prevented swift action to curb the unrest. Students emerging from their campuses to march towards the square were surprised to find the police melting away.

This time the police have stepped in more quickly. There is no sign of division among leaders. In October, after the party congress, Mr Xi unveiled a new line-up of the seven-member Politburo Standing Committee, the pinnacle of party power. For the first time all of its members are now clearly his loyalists. It was very different in 1989, when the committee included a reformist general secretary, Zhao Ziyang, and a deeply conservative prime minister, Li Peng. That the two men were at loggerheads was an open secret. During the protests Zhao was purged by Deng Xiaoping (then the country's military chief) for showing sympathy with the students.

Such tension is hard to imagine today. Mr Xi is general secretary and head of the armed forces. He has relegated the role of prime minister to the sidelines. Retired elders, who were then very influential, present little threat to Mr Xi. The death of Mr Jiang, his predecessor-but-one, has removed a figurehead of potential opposition, but Mr Jiang had long been too weakened, physically and politically, to pose any serious challenge. Mr Xi's immediate predecessor, Hu Jintao, was never very strong politically. Even when he was in charge, he bowed to Mr Jiang.

Mr Xi's enormous power will not stop him worrying. In September, well before the recent protests, the mouthpiece of the armed forces, the *Liberation Army Daily*, had warned that "hostile forces" were "stepping up" their efforts to instigate a colour revolution in China. Also that month, the country's police chief, Wang Xiaohong, had called for "focus on preventing and resisting" such an event. Mr Wang, a longtime confidante of Mr Xi, was appointed in June following a purge of senior police officials deemed disloyal to the country's leader. The sudden eruption of several simultaneous protests—though far smaller and less widespread than those of 1989—will have rattled Mr Wang, too.

Mr Xi may fret in particular that some protesters have gone beyond the political boundaries that were commonly observed by their counterparts in Tiananmen. In 1989 some demonstrators chanted "down with Deng Xiaoping", but most stopped short of calling for the party's overthrow. There was far less reservation among the hundreds who gathered on November 26th on Shanghai's Wulumuqi Road (its English name uses an alternative spelling of Urumqi—the site was chosen because of its relevance to the fire in Xinjiang). Their shouts of "Xi Jinping step down!" and "Down with the Communist Party!" were a heresy that Mr Xi will not forget. He will make doubly sure it does not happen again. ■

Listen to our podcast

Our correspondents break down the protests in China on Drum Tower, our weekly podcast. Listen and subscribe at **economist.com/chinaprotestspod**

The protests and ethnicity

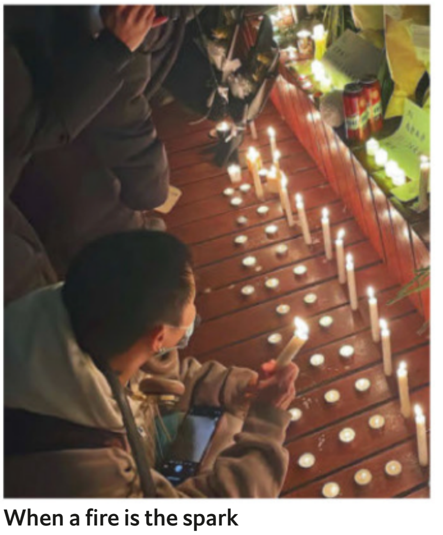
Solidarity, of a sort

Harsh lockdowns have united the Chinese. But certain divisions remain

"WE ARE ALL in the same building, only the fire hasn't reached us yet." So said a protester in Hunan province on November 27th. He was referring to a blaze three days earlier that killed ten people in an apartment block in Urumqi, the capital of Xinjiang. Many Chinese believe the country's covid restrictions contributed to the tragedy. So, in a rare moment of regional solidarity, hundreds of them took to the streets in cities across China, voicing their displeasure with the "zero-covid" policy.

The solidarity only goes so far, though. Neither Chinese officials nor the protesters mentioned the ethnicity of the fire victims. Most, if not all, are Uyghurs, members of a mostly Muslim minority who have suffered under a years-long campaign of mass detention, forced labour and cultural erasure in the name of counter-terrorism. It is too dangerous for Uyghurs to be involved in the protests. But members of China's dominant ethnic group, the Han Chinese, show little sympathy for their broader plight, either because the Han are not aware of it, don't believe it is happening or think that addressing it would cross a red line set by the government.

This has led to awkward moments. At a vigil for the fire victims in Beijing on November 27th, one demonstrator said, "I am from Xinjiang, thank you all for coming!" Another replied pointedly: "We are all Chinese!" Abroad, where Uyghurs can protest without fear of arrest, things have got uncomfortable at times. There were two vigils in Amsterdam on November 28th, one led



When a fire is the spark

by Uyghurs, the other by Han Chinese. The two groups started arguing when the Uyghurs raised an East Turkestan flag, a symbol of independence. The Han protesters did not want to be associated with separatism; some criticised the Uyghurs for asserting that they were not Chinese. It was "frustrating" and "ridiculous", says a Han participant who had hoped the groups could stand together.

Han protesters are missing the bigger picture, says Abduweli Ayup, a Uyghur activist in Norway. He notes that the apartment block that caught fire was located in a Uyghur district of the city, close to where riots broke out in 2009. So the building was not only under a covid lockdown, it was also hemmed in by roadblocks put up in the name of security (a common feature in Uyghur areas). Videos showed water from fire trucks falling short of the blaze, apparently because they could not get close enough. A callous official said the victims had been "too weak" to save themselves. At least one survivor of the fire has since been detained, according to Mr Ayup.

Some of China's longest and harshest lockdowns have been in border regions such as Xinjiang and Tibet, both of which have been largely sealed off for months. Residents have struggled with shortages of food and medicine—and with a lack of public attention. In October hundreds of anti-lockdown protesters clashed with police in Lhasa, the capital of Tibet, a situation ignored by Chinese media. Three Xinjiang residents were investigated in November after flooding a livestream of State Council proceedings with comments of "Urumqi Urumqi Urumqi". The government has worked hard to keep these remote areas out of the public consciousness through censorship and policing. The fire in Urumqi changed that.

Victims now, victims then

Still, the protests in China's big cities ring hollow to Abdulhafiz Maimaitimin, a Uyghur in Switzerland who says his aunt and at least one of her children died in the fire. For Uyghurs, who have long lived under invasive surveillance and the constant threat of police raids, covid restrictions are merely the latest method of government control. Mr Maimaitimin says his aunt's husband and oldest son have been missing since 2017, when hundreds of thousands of Uyghurs and other minorities were thrown into "re-education" camps. Some have since been released, while others have been moved to prisons or labour facilities.

The Chinese who demonstrated in recent days do not mention any of this. "In 2017, when so many Uyghurs were taken, why did they not protest? Why did they not speak for us?" asks Mr Maimaitimin. "They are protesting now for themselves, for their own freedom." ■



Frustrated students

Testing the party

BEIJING

Students are often at the heart of protests in China

From the May Fourth Movement of 1919, to the pro-democracy demonstrations in Tiananmen Square seven decades later, university students have played a central role in China's biggest protests. The Communist Party is therefore attuned to the risk of unrest on campuses. Under Xi Jinping it has stepped up indoctrination efforts. When Mr Xi visited his alma mater, Tsinghua University, last year, he implored students to be "confident in the system of Chinese socialism".

But many students feel the system is failing them. Over the past year there have been sporadic protests on campuses. In the past week there were many more, coinciding with demonstrations against covid-19 controls in big cities.

For the students, it is not all about draconian lockdowns. Some are frustrated by a lack of freedom. Young protesters, on campus and off, have taken to holding up blank sheets of paper to highlight China's tight controls on expression. In a more cerebral form of defiance, students at Tsinghua held up the Friedmann equations. These are formulae that describe the expansion of the universe. "Friedmann" also happens to sound a lot like "freed man".

Discontent among university students has been building for years. Next year's graduating class of around 12m grew up during a period of strong economic growth. They arrived on campus in 2019, probably expecting to have a good time before starting their careers. Instead, they have often been sealed in their dorms and forced to take classes online. Chelsea, a university student in Beijing, describes a swimming class: "They would have to pretend to swim on the bed, then take a video and send it to the teacher. They would practise holding their breath in the sink." In a desperate form of escapism, students at several universities started crawling in circles together. "Collective crawling is resistance to a lack of freedom," claimed a student in an essay posted online.

When the class of 2023 graduates they will face a different economy, too. China's unemployment rate for those aged 16 to 24 in cities is nearly 18%. Covid restrictions are partly to blame. But Mr Xi has also dimmed private-sector dynamism by cracking down on the technology sector and increasing state control. More and more students are competing for lower-paid, but stable government jobs. Others are opting for graduate studies in the hope that the job market will improve by the time they get out.

Some university administrators have sat down with students to discuss covid controls. Others are taking a different approach. "One day you will pay the price for everything you have done today," an official told protesters at the Communication University of China in Nanjing. Several universities are encouraging students to go home, even though winter break does not begin until January.

This round of protests may fizzle as the police clamp down. But students' frustration is clearly growing. "Everyone is very anxious," says Chelsea. Mr Xi provides no balm. At the party's five-yearly congress in October and in speeches thereafter, he implored youngsters to work harder, pursue realistic goals and "abandon arrogance and pampering". Inspiring stuff.

Chaguan | Lessons from a protest

On the streets of Beijing with youngsters angry at covid lockdowns



UNDER A ROAD bridge in central Beijing, just before two o'clock in the morning on November 28th, one of that city's most powerful men came face to face with youngsters driven to despair by China's harsh "zero-covid" controls. The brief meeting was revealing in several ways. It offered a glimpse of the security machine built by China's supreme leader, President Xi Jinping, and the Communist Party's confidence in it. On the protesters' side, it showed how, in today's China, youthful idealism is tempered by a sober understanding of the party's might.

Overall, this is an alarming moment for Mr Xi and his regime. China's covid-19 epidemic is raging and public frustration over the government's virus controls is deep and broad. In recent days that has sparked protests in every corner of the country, binding angry workers, locked-down city residents and students. In the icy depths of that Beijing night, hundreds of young Chinese staged a rare demonstration in the capital. They lit candles for victims of lockdowns and called for an end to endless covid testing and the quarantining of every positive case. They sang the "Internationale" and a song of farewell for the dead, notably for families who died in an apartment-building blaze in the western region of Xinjiang, reportedly after fire exits were sealed. As social media spread word of this protest on the banks of the Liangma river, scores of cars drove past to sound horns in support. For five hours police in uniform and plain clothes had mingled with the crowd, filming every moment, without intervening.

Now the remaining demonstrators found themselves outnumbered by police, with fresh columns of officers emerging each minute from the darkness. All there understood that the authorities were bringing this event to an end. The protesters sensed that a grey-haired man, flanked by a wall of police officers, was a *lingdao*, a leader. They were right. Quietly, after youngsters demanded to know his identity and whether he held a district- or neighbourhood-level rank, the man revealed his job: Beijing's police chief.

Moments earlier, after hours observing the protests, Chaguan had been pulled from the crowd by police, questioned and told to leave. An eyewitness's smartphone video captures the meeting with the police chief that began seconds later. A young protester in a white coat, maskless despite the certain risk of punishment, begins negotiating with the chief, Qi Yanjun. "If you've heard our voices then all this will not have been in vain," says the protester, as if naming a price for leaving. Mr Qi is impatient, muttering: "Alright, alright. Let's go." The protester names another demand, saying: "We need to know who you are." Without waiting for an answer, the young man uses an honorific dating back to imperial times, telling the police chief: "You are our *fumuguan*." That title, meaning "father-mother official" and often used to describe local magistrates in imperial times, harks back to Confucian teachings about filial duty and hierarchy, and the idea that the state should exercise social control like a stern parent. The moment says a lot about Mr Xi's rule. As he begins his second decade at the top, China's leader has built an autocracy that is at once unnervingly modern, backed by surveillance technologies that give opponents no place to hide, and strikingly traditional, drawing strength from patriarchal notions of state power.

Mr Qi responds in kind. There are many police here, but none of them will lay a hand on you, they are protecting you, he tells the protesters. Then he makes a veiled threat: leave now, while you can go home safely. He growls "don't shout" when the young man calls out: "Beijing's police chief has heard what we have to say!" At last, his officers shoo everyone away.

The next day, prominent nationalist commentators praised the Beijing police for their restraint, before claiming that hostile foreign forces had organised the protests as a "colour revolution". This was doubly misleading. For one thing, almost as soon as the protest ended, police moved to track down those present. Many youngsters have been called to police stations to sign statements, show officers their social-media contacts and answer questions about their political views. Fear increased as police turned up in force to smother protests called for the following night, after using some unknown mixture of mobile-telephone data, surveillance-camera images and infiltration of social-media groups to identify and track activists. For another thing, nationalists are wrong to call these events foreign-influenced. Those present were driven by authentic anger over covid controls that have limited their freedoms for nearly three years. What is more, their combination of daring, caution and an instinctive understanding of how far they can bargain with those in power is distinctively Chinese.

Life in a surveillance state

That night by the Liangma river youngsters approached your columnist to express excited incredulity that they were at a protest. Others shared fears of going too far, citing mass arrests seen the previous night at a protest in Shanghai. Individuals starting anti-government chants were quickly hushed or drowned out by renditions of the national anthem. As the police moved among the crowd, patiently filming and eavesdropping, those present pivoted between mocking officers and declaring their love for China.

Anger over the zero-covid policy matters because the party has no good options for assuaging it. China cannot lift covid controls quickly without risking chaotic waves of infection. That is a serious dilemma, especially because resentment of lockdowns has prompted such diverse demonstrations, including by migrant workers unafraid of violence. Politically charged protests involving students, like those seen in Beijing, are harder to assess. Young Chinese demanding greater freedoms capture worldwide headlines. But it is unclear whether any of those present had any hopes of changing their country. Being heard was a victory of sorts. In coming days, those who spoke out will learn the price to be paid. ■



Iran's economy

Too poor to strike

DUBAI

Even if they detest the regime, Iranians cannot afford to down tools

CALLS FOR a general strike are all over Iranian social media. It is a nod to history. When oil workers went on strike in October 1978, Iranian oil output fell by two-thirds and the shah's regime struggled to pay its bills. Subsequent general strikes brought the country to a standstill. The next year the monarchy was overthrown.

Protesters hope to harness similar energy this year, to oust the theocratic regime that replaced the shah all those years ago. In October, after weeks of anti-government protests across the country, staff at several oil-and-gas plants walked off the job. Workers burned tyres and blocked roads.

Within weeks, however, the strikes fizzled out. Workers returned to their jobs; oil exports were not disrupted. The episode was a reminder of the obstacles that face both Iran's labour movement and the broader opposition to the regime.

Nationwide protests, now in their third month, began after the death of Mahsa Amini, a young woman, in the custody of Tehran's "morality" police, who had accused her of wearing her veil improperly. Instead of mass rallies, the protests have become more of a cat-and-mouse game with the authorities: small acts of defiance on city streets and university campuses, sometimes brutally repressed. More than 300 people, including 40 children, have been killed, according to the UN's human-rights chief. A Norwegian monitor puts the toll at closer to 400.

Strikes have added to the turmoil. Beyond the October work stoppages, in a single week in November workers walked out of a diesel company near the capital, Tehran, and did the same at an aluminium factory in the south. Firefighters went on strike in the eastern city of Mashhad. Many shops in Tehran's bazaar closed their doors for several days. Teachers and lorry drivers have organised their own stoppages.

Yet not enough workers have joined the fray to pose a serious threat to the regime. After a decade of economic sanctions, life for many Iranians is hard. Official media acknowledge that the proportion of Iranians living on less than around $3 a day has doubled to 31% in recent years. Household spending for working-class families has dropped by 15% in the past decade. Even if many Iranians sympathise with the protesters, they simply cannot afford to strike.

As in 1978, oil and related industries are crucial to the regime's survival. Despite American sanctions, Iran managed to ship around 800,000 barrels per day in October, most of it to China. Even sold at a discount, that provides vital hard currency for a country with few other lucrative exports.

But the oil-sector strikes have been short-lived. Police arrested dozens of organisers and threatened more repression. Bosses were hauled in by the authorities and told to get their workers in line. The threat of arrest and prison is not the only fear. More than half of the 205,000 workers in Iran's petrochemical sector are on fixed-term contracts. Their jobs are precarious. They cannot easily find new ones if sacked.

Trade unions are a force in Iran. In mid-2018 they held scores of protests every week. Labour unrest in 2019 was the back- ▸▸

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drop to mass protests that November after the government announced a fuel-price rise. Now the government is cracking down on unions, arresting their leaders, crushing demonstrations and blocking sympathetic websites. And the unions are not as powerful as they were decades ago. Long-term economic changes have also weakened them. Researchers at the University of Tehran have estimated that 40-50% of Iran's labour force works in the informal sector, with no trade bodies able to organise them.

Weak unions and a large grey market help the regime keep workers divided. Earlier this year it announced a boost in public-sector wages and doubled the salaries of army conscripts. Though most of these rises were gobbled up by stratospheric levels of inflation (see chart), the government later offered additional pay rises to civil servants and pensioners. That may be enough, for now, to head off the sort of strikes that paralysed the shah's regime.

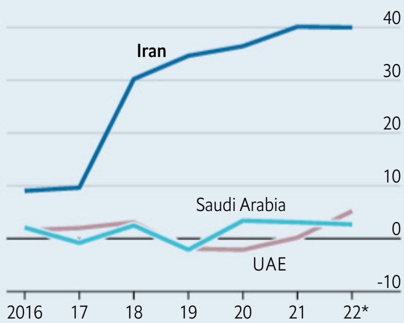
Some dissidents, in Iran and abroad, suggest setting up a strike fund to pay workers who walk out. Yet even if someone were to stump up the cash, the regime would make it hard for workers to collect it. Others think the diaspora could play a similar role through remittances. But this would probably require America to ease some of its sanctions on Iran, which cut off Iranian banks from the global financial system. It is unlikely to happen.

Thus the regime may stay afloat for some time. But it cannot afford to bribe key constituencies for ever. Printing money to pay higher wages will only fuel inflation.

Even with higher oil prices and aggressive tax collection this year, the treasury is running a large deficit. In October a member of parliament's budget committee said that Ali Khamenei, the supreme leader, had agreed to tap the sovereign-wealth fund to provide extra cash for the budget. So long as the regime has no good answers for the protesters in the streets or for the workers organising strikes, it will face a growing threat to its survival. ■

Galloping the wrong way

Consumer prices, % change on a year earlier



Source: IMF *Forecast

Israel

Numbers is just a book in the Bible

JERUSALEM

Israeli schools are much worse than people think

"THERE ARE two myths about Israeli education," says Haim Shaked, head of Israel's forum of teachers' colleges. "One is that Jews care deeply about education. That may have been true when we were in exile and needed to retain our Jewish identity. In Israel that's no longer the case. The second myth is that because Israel is such a tech success, with so many startups, this means that Israeli education is excellent. What we have are islands of excellence surrounded by a failing system."

A report in October backed his gloomy prognosis. The number of trainee teachers had fallen by 38% compared with the previous year, as morale in the classroom plummeted. The government has raised teachers' pay and made it easy to get into teacher-training college. But the number of teachers keeps falling. The profession lacks prestige. Bright young Israelis nowadays are keener to go into tech companies.

Indeed, over 10% of Israel's workforce is employed in the tech industry, perhaps the world's highest proportion, but some doubt this will last, since Israeli children are scoring dismally in international tests. "We're getting serious complaints from business, academia and even the military about the level of school graduates," says Dalit Stauber, the education ministry's director-general. Israel's education system faces "a strategic crisis".

In the Programme for International Student Assessment (PISA), a test devised by the OECD and administered mostly to pupils in developed countries, Israel's ranking for 15-year-olds has been steadily falling. By 2018 it was 29th out of 37 countries assessed, and even lower in maths (32nd) and science (33rd).

Dan Ben-David, an economist at the Shoresh Institute in Tel Aviv, has studied the results and found still more cause to worry. If the tests applied only to Israel's secular schools, the country would be in the rich world's top ten. But its state-run religious schools lag far behind, and those serving Israel's Arabic-speaking minority do even worse (see chart). "Even these figures are misleading," he observes. "They don't include Jewish ultra-Orthodox schools, which don't teach the national curriculum and aren't tested by PISA."

"We're constantly seeing the gaps widening among our applicants," says Yuval Elbashan, Dean of the Ono College, Israel's largest private academic institution, which has large numbers of Arab and ultra-Orthodox students. "We're having to devote major resources just to getting new students up to standard."

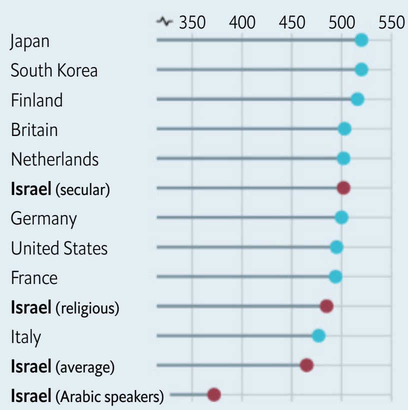
In 2020 a fifth of children started primary school in the ultra-Orthodox system. That proportion is set to grow, since the ultra-Orthodox have a high birth rate. Their political parties, which are part of the coalition that won Israel's election on November 1st, have been promised by the incoming prime minister, Binyamin Netanyahu, that their schools will receive government funds, even though they ignore the national curriculum and generally refuse to teach "secular" subjects such as maths and English beyond a rudimentary level—and for boys only to the age of 12. After that, pupils are obliged to take exclusively religious lessons.

Israel's educational woes are not because of a lack of investment. National spending on primary and secondary education, at over 5% of GDP, is higher than in any other rich country. But its system of separate state-funded school networks for Jewish students of differing sects and for Muslim and Druze students requires a heavy and intrusive bureaucracy that hampers teachers and school heads. "Israel isn't the only country with a shortage of teachers or wide social gaps," says Adar Cohen of the Hebrew University's School of Education. "But the way its state school system is split into different streams is unique—and a major source of its problems."

This division means that curriculums, tests and teachers' training are conducted separately. The level of funding per student in state schools, whether Jewish or Arab, is equal. But richer local authorities supplement their local schools' funding. Wealthy parents make up for what their children do not get at school. "Nearly everyone goes to state schools, but there's an entire hidden industry of private tuition, paid for by par- ▸▸

Could do better

PISA test scores*, selected, 2018



Sources: OECD; Shoresh Institution *Average of maths, reading and science

ents who can afford it, which is holding up the Israeli economy," says Yoav Pridan, principal of a Tel Aviv high school who co-chairs the Manhigim ("Leaders") organisation of head teachers.

"The education ministers and director-generals are constantly changing and principals are unable to effect changes in their own schools, because we're stuck with a politicised and centralised system," says Mr Pridan. There have been seven education ministers in the past decade.

Ms Stauber, appointed by the outgoing government, has sought to reform teaching methods. She has given teachers incentives just to stay in the profession and granted heads more independence. She has also offered ultra-Orthodox schools extra funds if they agree to teach maths, science and English to a higher level. But she is about to leave after just a year in the job. A new minister from Mr Netanyahu's Likud party is bound to try setting a different agenda. The outgoing team's attempt at reform has provoked right-wing and religious criticism for supposedly forsaking traditional Bible studies.

A new deputy minister representing the religious right will seek to ensure that ultra-Orthodox schools can carry on neglecting secular subjects such as maths and science. Meanwhile, the ultra-Orthodox are predicted to rise from around 12% of the population today to 25% by 2050. Without serious education reform, Israel could become a country where people know their Book of Numbers, but not their numbers or their books. ■

South Africa

Ranch of government

JOHANNESBURG

A sofa stuffed with cash imperils the president

LAST MONTH Cyril Ramaphosa was on a state visit to Britain, beaming under the chandeliers of Buckingham Palace. South Africa's president was in a buoyant mood. He was being wooed abroad. At home he was the clear favourite to retain the presidency of the ruling African National Congress (ANC) at the party's national conference beginning on December 16th—and thus, in all probability, leadership of the country for the rest of the decade.

Mr Ramaphosa's political fate now hangs in the balance. On November 30th an independent panel appointed by the speaker of South Africa's parliament said that MPs could begin impeachment proceedings against the president (pictured). Its report, authored by a retired chief justice, found "prima facie" evidence that the president broke the law and violated the constitution, in an odd saga involving a score of buffalo, a Sudanese businessman and hundreds of thousands of dollars stolen (by unknown thieves) from a sofa.

The verdict has shocked South African politics and is deeply serious for the man who pledged to clean up South Africa after the horrendous corruption under his predecessor, Jacob Zuma. If the findings lead to the president's ouster, it will throw the country into yet another political crisis.

Mr Ramaphosa's troubles began six months ago. On June 1st Arthur Fraser, a former spook, submitted evidence to the police that he claimed showed the president had broken various anti-corruption laws concerning the concealment and subsequent theft of large amounts of US dollars at Mr Ramaphosa's game farm in the province of Limpopo. Opposition MPs seized on the claims and successfully asked the speaker to refer the matter to the independent panel—the potential prelude to impeachment.

Mr Ramaphosa denies wrongdoing. His version of the story is that the cash taken from the sofa ($580,000, he says) came from the sale of 20 "substandard" buffaloes to a Sudanese businessman on Christmas Day in 2019. The money went in the sofa, he says, because it was thought to be safer than the farm's safe. After learning of the theft a few weeks later, he reported the matter to his protection team, which is a branch of the police. The president also argues that, while he is the ultimate owner of the game farm, he is not involved in day-to-day operations, and therefore not in breach of constitutional rules regarding conflicts of interest.

The independent panel conceded that Mr Fraser's allegations contained "hearsay". Yet, after conducting its own preliminary inquiries, it concluded that there is sufficient evidence for MPs to investigate the case further via impeachment proceedings. Its report suggested that by seemingly combining the job of president with that of a game farmer, Mr Ramaphosa has violated the constitutional ban on cabinet ministers undertaking "paid work". The panel found that Mr Ramaphosa should have reported the matter to the relevant police department, not just his security team. They argue that Mr Ramaphosa may have also abused his power by seeking the help of Namibia's president in apprehending suspects who had fled South Africa. The panel concludes that there is "substantial doubt" about the source and amount of money stolen.

In a statement after the report was published Mr Ramaphosa again professed his innocence. Its findings, he said, represented "an unprecedented and extraordinary moment for South Africa's constitutional democracy". Indeed it is: no South African president has been impeached before.

What happens next will take place in two related arenas. The first is the National Assembly. MPs are due to discuss the panel's findings on December 6th and will decide on whether to go ahead with hearings. Mr Ramaphosa may launch a legal challenge against the panel, a hitherto untested constitutional mechanism.

The second arena is the ANC itself. Under party rules championed by the president, officials are expected to "step aside" if facing criminal charges. Mr Ramaphosa has not been charged (though there is a separate police investigation), so may claim the standard does not apply in this case. Yet many in the party may use this opportunity to renew efforts to oust him at the conference this month, potentially replacing him with someone less keen on reform—or tackling corruption.

The South African rand fell against the dollar as markets weighed up the potential for months of instability ahead. If Mr Ramaphosa does end up going, it would be a grim end for the man who came to power offering "a new dawn" for South Africa. The president promised to restore due process after the kleptocratic chaos of the Zuma years and to protect the constitution he helped shape in the 1990s. It would be a sad irony if the man who vowed to restore the rule of law was ousted for breaking it. ■



Game for impeachment?

Angola

Mine craft

NANCOVA

Modern technology is helping to reduce the menace of landmines

In the remote village of Nancova, in southern Angola, a team from the HALO Trust, a British mine-clearance charity, watches intently as a drone whirrs back and forth over a nearby hillside. It is searching the terrain below, using a thermal sensor to pick up temperature discrepancies that could spot the whereabouts of landmines laid decades earlier during the country's devastating civil war.

"If there's an object buried in the ground, it will heat up and cool down at a different rate compared with the soil," says Michael Nevard, HALO's head of research and development. "So if you take the imagery at the right time of day you can see a kind of heat shadow."

Mine clearance is a painstakingly slow process that still relies on men and women with body armour and metal detectors methodically scouring the earth for signs of mines, a square metre at a time. It is a job that cannot safely be rushed. Angola has been at peace for over 20 years, yet there are still more than 1,000 uncleared minefields across the country that claim lives and stifle development. Clearing them could well take another 20 years.

But advances in aerial imaging now speed things up. Drones fitted with thermal sensors or with a facility for light detection and ranging (known by its acronym, Lidar) help pinpoint minefields and mines from the air. This makes it safer and quicker to clear them on the ground.

Different types of sensors suit different environments. The wide daily range of temperature in southern Angola lends itself to the thermal system, but tree cover can make it ineffective. Lidar sensors can see through the tree canopy to pick up vital clues from the ground below. "After 30 years, things like craters and trench lines can be almost invisible," says Mr Nevard. "If you flew over this with a standard camera you wouldn't see it at all. But Lidar will map it in 3D. That can give us a very strong idea of where the minefield is."

Drones are not the only recent advance in de-mining. A new generation of ultrasensitive metal detectors developed by gold-miners can spot mines buried deeper underground and those with a low metal content that might otherwise have gone unnoticed. Systems designed for the American army that combine metal detection with ground-penetrating radar are beginning to help de-mining, too.

Other advances are less high-tech. A simple potato-harvesting machine is often ideal for removing anti-personnel mines from the ground. "There's no silver bullet that works everywhere," says Mr Nevard. "It's all about matching the tool to the threat and the terrain. But in the right conditions you can double, triple, sometimes quadruple productivity."

However sophisticated the equipment, humans with basic tools usually complete the task of uncovering and detonating the mines. Wooden sticks mark suspected mines; simple metal tools dig them out.

For Angolans who have grown up under a constant threat of mines, anything that speeds up de-mining is welcome. "We won't be free until the mines are gone," says Donisa Kasanga, a farmer in her 70s who lost her leg by stepping on a mine on her way home from her fields. "It's like we're living in a cage." ■

Kenya

Brotherhood of bikers

KISII

A motorbike taxi driver's funeral shows how society and politics are changing

Death may mean eternal silence, but you can hear the funeral of a Kenyan boda-boda driver (a motorbike taxi man) from miles away. Music blasts from loudspeakers that have been mounted on the hearse (a flower-laden minibus), as the shouts of mourners compete with the honks of passing lorries and the toots of dozens of boda-bodas that make up the raucous procession.

Such send-offs are common. Last year 1,634 boda-boda drivers and their passengers died in accidents on Kenya's roads, according to official figures. Yet their rowdy funerals are not just a sign of the dangers they face (and cause). They also mark changes in Kenyan society that, among other things, are rejigging the conventional calculus.

Many older Kenyans, especially those in the countryside, keep to the old tribal ways of honouring their dead, often with the aim of pleasing ancestral spirits. Ethnic loyalty has long influenced how Kenyans have tended to vote. Governments were often in essence tribal coalitions, with leaders promising to funnel state resources into their own ethnic heartlands. Now, however, many young Kenyans are casting off old traditions and ethnic identities and are adopting new political allegiances as they move in ever larger numbers into the cities.



Fraternal or fratricidal

Boda-boda drivers exemplify the trend. Cut loose from ties of village and kin, and often considered an unruly menace by the Kenyan middle class, they have formed a new brotherhood of their own. "We have no other community," explains one taking part in the funeral procession of another driver he did not even know. "This is our community."

The brotherhood is growing fast. There may be between 900,000 and 2.4m motorcycle taxis serving Kenya's population of around 55m, according to estimates by the government and industry. Car & General, a Kenyan insurer, reckons they pull in fares worth 365bn shillings ($3bn) a year, equivalent to a shade more than 3% of GDP. So they are an economic force to be reckoned with.

And they are gaining political heft, too. William Ruto, elected president this year, campaigned hard to win their votes. He lionised them as epitomising the "hustler nation" he claims to represent. This may explain why boda-boda drivers were more inclined to vote for him than his opponents, who promised lower fuel prices and more welfare.

Yet boda-boda drivers bring problems, too. They are often embroiled in turf wars and organised crime. Their fierce loyalty to one another can lead to violence. Last year hundreds of drivers stormed a hospital and killed two suspected motorbike thieves. Moreover, many are unlicensed and gleefully disregard road signs, according to a study by Kenya's National Crime Research Centre. Many ride while they are drunk or high on drugs, contributing to the awful annual death toll on the roads—as well as to ever noisier funerals.



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Ukraine

Crimean War

KYIV

A Ukrainian attempt to retake Crimea would be bloody and difficult

VLADIMIR PUTIN hoped to take over Ukraine in ten days. Nine months later, he faces serious problems holding on to the slice of territory he did manage to seize. Momentum is on Ukraine's side following two counter-offensives, around Kharkiv in the north-east, and Kherson in the south, that were conducted with a minimum of loss and a maximum of triumph.

But those two victories now raise the prospect of what would be much more humiliating Russian reverses in Donbas and Crimea, territory seized by Mr Putin in 2014. In an interview published on November 24th Volodymyr Zelensky, Ukraine's president, reiterated his aim to "return all lands". This is what Ukrainians tell pollsters they want, but Ukraine's Western backers are less sure. They fear that an operation to retake Crimea, or Donbas (militarily an easier proposition), might drive Russia to escalate, perhaps even to use nuclear weapons.

Ukrainian commanders are, not unreasonably, coy about their next moves. "If we telegraphed our plans on social media and on TV, we'd achieve nothing," says Mykhailo Zabrodsky, a former commander of Ukraine's air-assault forces, who remains close to the planning process. The lieutenant-general insists an operation to take back Crimea is not only possible, it was something that was being prepared for 2023. When exactly an operation might begin is another question: there are many battles to win first. But history shows, he says, that an occupying force "always finds it difficult to hold on to Crimea".

Sources in the armed forces say that "nothing" is off the table, including operations against territory seized by Russia before February 24th. The roads leading to Crimea are now within range of Ukrainian firepower, including the HIMARS rocket systems that have so dramatically disrupted Russian logistics since they were first introduced in the summer. Russian-appointed authorities in Crimea are preparing to resist a ground attack, ordering the construction of new fortifications and trenches, and declaring emergency threat-levels in several parts of the peninsula. Locals in Dzhankoy report trenches are being built near an airbase that was targeted in August and, apparently, again a few days ago, in what are likely to have been attacks by Ukrainian special forces.

But Ukraine seems likely to focus its firepower elsewhere first. Cutting Mr Putin's land bridge, the occupied territory linking mainland Russia to Crimea, remains the priority. Russian military planners understand this too, and have devised and manned defensive lines accordingly. A source in military intelligence is confident that Ukraine's structural advantages, principally its ability to stage highly mobile hit-and-run attacks and break up supply lines, will prevail. "We've demonstrated at every stage that our tactics and focus on logistics are correct. We will show it again," the source says.

The many battles for Crimea over the centuries provide Ukrainian planners with plenty of insights. The largely bloodless Russian annexation in 2014, during which only two Ukrainian soldiers lost their lives, is not a typical example. Military operations in Crimea more usually end with thousands dead: in the last century alone hundreds of thousands have fallen at its gates, primarily in the Russian civil war and the second world war, to say nothing of the vast casualties during the Crimean war of the 1850s. Taking the peninsula has usually required crossing narrow, open strips of land, or marshes.

Military experts with intimate knowl-

edge of the peninsula say that the topography should give Ukraine pause for thought. Admiral Mykola Zhibarev, who back in 1992 provoked the break-up of Russia's Black Sea fleet by declaring his frigate to be Ukrainian, now says that diplomacy is the most promising route to regaining the contested territory. Andrii Ryzhenko, a retired navy captain who was born in Crimea, says that a successful operation would require a lot to go right. "There is a real prospect that things will end in a bloodbath. That is an operation Ukraine does not need."

Lieutenant-General Zabrodsky insists that Ukraine's planners have devised tactics that might work. Ukraine does not intend to enter into a senseless frontal assault on Crimea, he says. There are other "interesting" possibilities for combined-arms manoeuvre, using land troops, sea landings and air attacks. Russian naval and air dominance could be thwarted with "asymmetric tricks". The Ukrainian drone attacks on the Black Sea fleet in late October, damaging the flagship *Admiral Makarov*, and the destruction of part of the Kerch bridge (see picture on previous page) were examples. "We will surprise people—and many times—again."

Ukraine's Western backers have refrained from talking down Ukraine's military ambitions in public. Ukraine likewise insists that its allies have not held back military planners in private either. But gaps appear to be opening up in the rhetoric. America's top soldier, General Mark Milley, who is on the more cautious end of government opinion in that country, said on November 16th that a Ukrainian victory in Crimea was unlikely to be "happening any time soon". Ukraine's military planners understand that America, and the weapons it supplies, are the key to whether it will ever happen at all.

Political leaders in Kyiv privately concede that retaking Donbas and Crimea is a lot more complicated than the government's confident slogans suggest. They accept that a large proportion of the population there remain hostile to Kyiv. Ukraine's operations to recapture Kharkiv and Kherson, among other places, were helped by a network of sympathetic informers in occupied territory. The opposite will be the case in the areas of Donbas held by Russia since 2014, from where most of those sympathetic to Kyiv have long ago fled or been chased out. An operation to retake Crimea would probably encounter partisan resistance from pro-Russians. It is far from clear that Ukraine could even count on more sympathetic parts of the population, such as the Crimean Tatar community, many of whom have by now accepted Russian rule as a *fait accompli*.

But Mykola Bielieskov, an analyst at Ukraine's National Institute for Strategic



November 30th 2022
Assessed as Russian-controlled
Assessed Russian operations*
Claimed as Russian-controlled
Approximate Ukrainian advance
*Russia operated in or attacked, but does not control
Sources: Institute for the Study of War; AEI's Critical Threats Project

Studies, says Mr Zelensky is now tied to his promise to win back Crimea. Even before the successful counter-offensives in Kharkiv and Kherson, polls showed more than 84% of Ukrainians were against making any territorial concessions to Russia in eventual negotiations; those numbers are now surely higher. That raises the possibility that Ukraine's war president might be manoeuvring himself into a corner. An attempt to bring Crimea back under Ukrainian rule would be a costly military endeavour—and might cause splits with allies that he cannot afford to alienate. ■

Hungary

Big Viktor is watching

How Hungary used citizens' covid data to help the ruling party

In December 2020, when Hungary's health authority set up a website for citizens to register for covid-19 vaccinations, it included a tick-box for those who wanted to receive further information. Gabor Toka, a political-science professor, found it odd that the box did not specify that future communications should be about covid. To see what would happen, he ticked the box for his own registration but left it unticked for his mother's. Some months later, when Hungary's general-election campaign swung into gear, he found that he (but not his mother) started to get campaign emails from the ruling party, Fidesz.

Mr Toka was not the only one. A report published on December 1st by Human Rights Watch suggests that Fidesz seems to have gained access to state databases and used them to send campaign messages to voters. In addition to emails, people got phone calls and text messages from Fidesz candidates urging them to vote and reminding them what a wonderful job the government was doing.

Viktor Orban, Hungary's prime minister, has been erasing the boundaries between the state and Fidesz ever since coming to power in 2010. He has used his two-thirds majority in parliament to overhaul the constitution and pack the courts with sympathetic judges. Friendly businessmen have taken over nearly all of the country's media outlets and put most of them under the control of a foundation whose board is appointed by Fidesz members. Before elections, Mr Orban routinely has the government's information office stage "national consultations": bogus surveys which ask every citizen biased questions, such as whether they support showing explicit sexual content to children, implying that the opposition does.

Abusing databases for campaign purposes, however, violates both EU and Hungarian laws on data privacy. Europe's General Data Protection Regulation rules out even some practices that are routine in American politics. Preserving lists of individual voters' surveyed preferences in previous elections, for example, is illegal unless they have given their consent. Fidesz is understood to keep an immense database going back to 2004, known as the Kubatov list after a party official.

Some Hungarians complained about such practices during the campaign, to little effect. The National Electoral Commission ruled in February that the government information office had broken no rules with its emails praising the government's Ukraine policies. The supreme court said the emails went too far, but imposed only a procedural fine. Hungary's constitutional court, mostly appointed by Fidesz, then overturned that ruling: after all, it reasoned, the war was an important issue and the office's duty was to inform citizens.

The report documents apparent violations of data-privacy rules by the opposition as well. The main opposition parties formed a coalition during the election campaign in the hope of unseating Mr Orban. The parties set up a new joint database of contact information collected with voters' consent for this campaign, which was not to be merged with their separate party databases (and was to be deleted after the election). But some voters were contacted by parties they had not provided consent to, suggesting the data was not in fact properly cordoned off.

Yet the scale of the data available to Fidesz and the government dwarfs anything ▸▸

the other parties could put together. The joint opposition's pre-election signature campaign, which it used to build its voter database, reached some 800,000 people, of whom a third agreed to be contacted. The health authority's covid contact list alone contained information about 6.5m citizens, about two-thirds of Hungary's population. Using ministries for campaign purposes, while also dominating the mainstream media, helped Fidesz win a lopsided victory in April's election: it took 54% of the vote to the opposition's 34%.

There were many reasons for the opposition's defeat. Their candidate for prime minister never managed to connect well with voters, and the parties, an ideologically incoherent collection ranging across the political spectrum, spent too much time arguing among themselves, leading to confusion about how they might govern had they won. But Mr Orban's outrageous use of government resources to campaign doubtless played a part. ■

Germany

Angela Merkel's faded glory

BERLIN

Views of the former chancellor have become harsher

ASKED WHETHER Barack Obama is content with his legacy, Angela Merkel, the former German chancellor, replied in a series of interviews published last week with *Der Spiegel*, a German weekly, that she believes the former American president is at peace with himself, whereas she is still searching. To endure criticism is part of democracy, said Mrs Merkel, but she added that she reckoned that a retired American president is treated with more respect in public than a retired German chancellor.

A year after she stepped down as chancellor, the war in Ukraine has cast a shadow over Mrs Merkel's reputation. She used to be widely admired for her moderation and pragmatism. "Merkel", a new documentary by Eva Weber, a German director who lives in London, which premiered in Berlin on November 23rd, largely reflects this view.

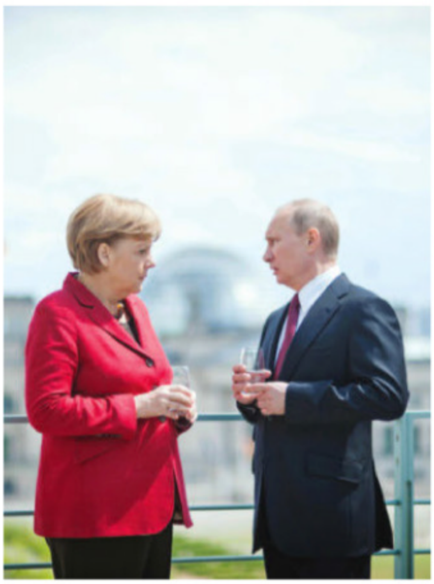
On the whole, it paints a portrait of her as she was seen when she left office, at which point she was still perhaps the most popular of European leaders, both at home and abroad. But Germans' assessment of her legacy has changed dramatically since then. It is presumably because she worries about how history will judge her that she recently gave long interviews to *Der Spiegel* and to *Stern*, another weekly, which put her on the cover last week.

In the 12 months since Mrs Merkel retired, Europe has seen a war erupt. The prices for natural gas and electricity have rocketed, and Germany is questioning the foundations of its economic, military and security policies. Mrs Merkel is now seen as naive for allowing Germany to become so dependent on energy supplies controlled by an obvious thug like Vladimir Putin. She is also blamed for the relative feebleness of Germany's armed forces, for the country's sluggish digitisation, and for the unhealthy dependence on China of some of its biggest companies.

"Merkel" is a watchable documentary about a remarkable leader who was the first woman, eastern German and scientist to hold Germany's top job. It captures her dry humour, her modesty and her ill-concealed contempt for Donald Trump. But its favourable portrayal feels out of date.

In her recent interviews Mrs Merkel refuses to admit any fault with her Russia policies, even though other German leaders, such as Frank-Walter Steinmeier, the president, have been honest enough to do just that. Mrs Merkel would rather make excuses. "I no longer had the power to persuade others because everyone knew 'she'll be gone by autumn'," she told *Der Spiegel*, explaining how she and Emmanuel Macron, the French president, had tried in vain to set up another round of talks after a meeting in the summer of 2021 between Mr Putin and President Joe Biden.

Worst of all, Mrs Merkel ignores the fact that she could have stopped Nord Stream 2, a now defunct pipeline intended to bring gas from Russia to Germany. The aim of that pipeline, Putin-watchers warned, was to let Russia keep exporting gas to Europe even if it cut off supplies to Ukraine, which Nord Stream 2 bypassed. Had Mrs Merkel been firmer, Mr Putin might have felt less confident about bullying Ukraine. ■



A leader and her blind spot

Spain

Unreasonably blue

MADRID

The Spanish are too grumpy about their politics

MOST PEOPLE see their own countries in a better light than foreigners do. Not so Spaniards: in a study in 2021 for the Elcano Real Institute, a think-tank in Madrid, Spanish respondents were among those of just five countries (out of a total of 24) to have a lower opinion of their country than those outside it do.

Fine weather, liveable cities and strong bonds among friends and family make for a happy day-to-day life. On one score, though, Spain is one of the worst performers in Europe: trust in political parties is just 8%, and in governments 22%, against EU averages of 18% and 37% respectively. As Spaniards look back over 44 years of democracy, they wonder what went wrong, even as average incomes doubled, social freedoms blossomed and the country joined the European mainstream.

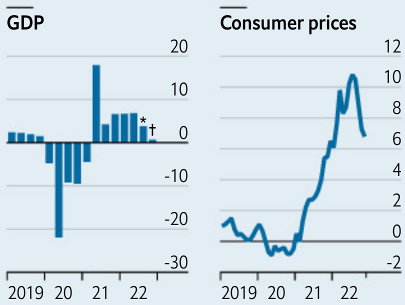
An answer lies in politics. From 1982 until recently Spain had single-party governments, of the centre-left Socialists or centre-right People's Party (PP). But the financial crisis and the populism that emerged from it have splintered the political line-up, and also given a boost to regional nationalists, notably Catalonia's independence movement. The government that emerged out of two elections in 2019 is led by a Socialist party that won just 120 of 350 seats in parliament. Having promised never to do so, Pedro Sánchez, the prime minister, brought the populist and far-left Podemos into coalition. Lacking a majority still, he was forced to rely on both Catalan and Basque separatist parties for his investiture as prime minister.

Mr Sánchez has managed this situation fairly deftly. His government looks likely to survive for a full term, despite many predictions that such an unwieldy contraption would not. On November 24th he passed his budget on time—an achievement in Spain—through the lower house of parliament, ensuring its approval. But the compromises made recently with his allies have infuriated many Spaniards.

The most controversial decision was to announce a reform of the law of sedition. It was under this statute that organisers of Catalonia's unconstitutional independence referendum in 2017 were tried. Nine of those leaders were found guilty; others (including Carles Puigdemont, at the time Catalonia's regional president) went into exile. Mr Sánchez pardoned those nine in 2021. His government had long hinted that

No worse than others

Spain, % change on a year earlier



Sources: EIU; INE *Estimate †Forecast

it would also reform the sedition law, in place since 1822, saying that it was out of step with European norms. But the proposal to do so led to an explosion of fury, with the right calling him a traitor for letting the leaders of 2017's "coup" off lightly in order to secure the support of the Catalan republican left for his budget.

Another high-voltage row has broken out over the reform of the law on sexual consent, known as the "only yes is yes" law. It was the brainchild of Irene Montero, the equality minister, who hails from Podemos. Passed in August, it was advertised as requiring clearly expressed consent to sex by both parties. (After a gang rape caught on video in Pamplona in 2016, the perpetrators were initially given light sentences because the victim did not visibly resist her attackers.) But since the law came into force, those found guilty of sex crimes have in fact seen sentences reduced due to the reorganisation of the categories of offence. Before it was passed, right-wing opponents said that Ms Montero's bill would lead to kangaroo courts and easy convictions. Now they say she is responsible for letting rapists walk free. The attacks were particularly vicious from Vox, the party to the PP's right.

The left is happy to return fire. The PP leads in most polls, but if it won elections (due at the end of next year) it would need Vox's support to govern. Spain's left is busy trying to scare voters over the prospect of a government with Vox: *facha* ("fascist") is an everyday insult in a country where many people remember Francisco Franco, and a few still miss him. A new Democratic Memory Law became another flashpoint recently. It led to the exhumation of Gonzalo Queipo de Llano, a bloodthirsty Francoist general, from a Seville church.

Commentators have long spoken of "the two Spains", destined to be forever at odds. This hostility is hardly visible on Spain's streets, warm in temperature and in spirit. But it poisons Spanish politics, ever more so where parties at the extremes so often set the tone. ■

Illegal drugs

So goes the blow

ROME

A massive cocaine bust across Europe

A MAN SITS bare-chested with his hands fastened behind his back as a masked police officer looks on. A woman takes a wad of cash from a figure at a computer, unaware that she is being filmed by a hidden camera. Cut to glimpses of a luxury hotel, then a clutch of Ferraris—scenes that could be from a narco-thriller.

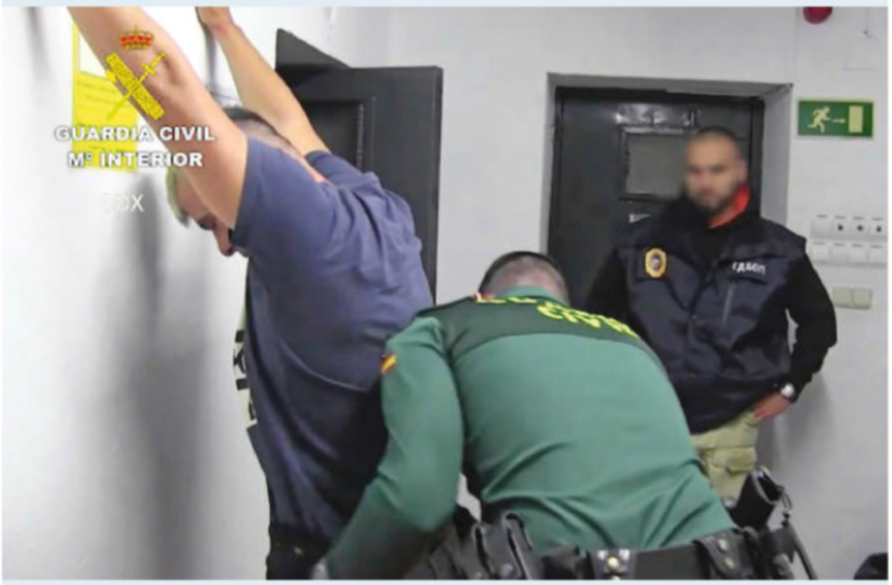
They feature instead in a video that was released by Europol, the EU's law-enforcement agency, on November 28th as it revealed what is arguably the world's biggest-ever drugs bust. More than 30 tonnes of cocaine were seized this month in a series of raids involving police from the Netherlands, Belgium, France, Spain, America and the United Arab Emirates (UAE). The combined haul was more than twice the amount taken in 1984 from Tranquilandia, the jungle laboratory of Pablo Escobar, a Colombian cartel boss.

The operation, code-named Desert Light, highlighted Europe's booming cocaine trade: Europol estimates 60% of exports from South America come to, or pass through, Europe. It also showed, though not for the first time, that digital technology, which has been crucial to the globalisation of organised crime, is a double-edged weapon. Operation Desert Light drew on intelligence gathered from a telephone platform that was hacked by police who then used it to listen to communications between drug-traffickers.

The criminal organisation targeted in the operation is thought to have smuggled around a third of all the cocaine reaching Europe. Though dubbed a "super cartel" by Europol, it was more akin to a network in which each stage in the transport of the drugs was entrusted to a different, specialist group.

The outstanding novelty of Operation Desert Light was the UAE's involvement. Dubai has become a favourite refuge for mobsters. Following an agreement in September, a UAE liaison officer is now based at Europol's headquarters in The Hague. Of the 49 people arrested this month, six—all "high-value targets"—were detained in Dubai. "That is the big message of this operation," said a Europol official. "Dubai is no longer a safe haven for criminals."

The latest busts will certainly disrupt the cocaine trade. But the "blow" will continue to flow, though perhaps along different routes. Recent years have seen a shift from ports in Spain and Italy towards those of Belgium and the Netherlands. According to the Dutch prosecution service, the drugs impounded this month were unloaded in Antwerp and Rotterdam. But, says Ruggero Scaturro, an analyst with the Global Initiative against Transnational Organised Crime, there is now growing evidence of narcotics traffickers switching to ports in south-eastern Europe—notably Piraeus, the ancient port of Athens.



Snorted and sorted

Charlemagne | United States, divided Europe

America's green subsidies are causing headaches in Europe



For years, Europe has nagged the world to follow its lead in cutting carbon emissions. In August America's federal government at last heeded its advice; President Joe Biden signed a jumbo package of green subsidies. Far from pleasing Europe, the "Inflation Reduction Act" (IRA), which will dole out $369bn in corporate bungs as early as January, has caused a transatlantic spat. Talk of a trade war pitting Europe against America is brewing even as both are allies in a real war in Ukraine. By mimicking policies that many Europeans favour, America has stoked strife among its friends.

Europe wants America to go green, but not like this. The primary gripe of the EU, which deals with matters of trade on behalf of its 27 member states, is that vast swathes of the IRA are earmarked for companies making stuff in America (or its immediate neighbours, Canada and Mexico). Electric cars assembled in North America, for example, will qualify for a tax break worth up to $7,500; those even part-made in Europe will get nothing.

This breaches free-trading principles that are supposed to bind all members of the World Trade Organisation (WTO). Americans understand Europe's frustration but are unapologetic. The protectionist bits are popular with union-backed Democratic lawmakers. Without them, Mr Biden's team would not have been able to wrestle the bill through Congress, insiders say. Better an imperfect deal than none at all. And it takes chutzpah for Europe to object to a blend of protectionism, subsidies and statist visions of what industries ought to look like. Such things are not exactly rare on the old continent.

Europe has never been thrilled when WTO norms are flouted: to its credit, it does tend to follow them. For a while, it was prepared to look the other way, deeming a little rule-bending an acceptable price for getting America to cut carbon more ferociously. But its patience is now exhausted. In recent weeks several European industrial giants have unveiled plans to invest in America, rather than at home. Who can blame them? Energy has become much costlier in Europe, especially since Russian tanks rolled into Ukraine in February. One reason is that Europe has agreed with America to impose tough sanctions on Vladimir Putin's regime, which has prompted Russia to cut off almost all gas deliveries. Europe suffers far more from this than the land of the free and the home of the frackers. To European politicians, it rankles that European factories are threatened not only by Russian revanchism but also by Uncle Sam's subsidies. America and Europe are close allies geopolitically. Economically they increasingly look like foes.

Europe is still hoping America will water down the IRA's protectionist elements. France's president, Emmanuel Macron, has been making the case this week while on a state visit to America; officials are meeting behind the scenes to see if the fine print can be tweaked. But anything beyond cosmetic change seems unlikely. That will leave Europe having to respond. None of its options looks good, and each would divide the EU in a different way.

A first possible tack would be to take America to the WTO, in the hope of a ruling that its new subsidies are illegal. Such wranglings are long, dull and unrewarding: the transatlantic battle over aircraft subsidies to Airbus and Boeing lasted 17 years. By the time it ended in 2021, it was impossible to say who had won (apart from the lawyers). Nowadays it is unclear that the WTO even has the capacity to process such a case. (Donald Trump, and later Mr Biden, paralysed its dispute-resolution mechanism by blocking all new appointments of judges to it.) And if Europe were somehow to prevail at the WTO, and win permission to retaliate with its own tariffs, it might not want to do so. A trade war would expose a rift between Europeans who are sceptical of globalisation—France, say, which has been pushing for "Buy European" schemes—and others like the Netherlands and Ireland who believe their prosperity depends on open trade. Both America and Europe know that China, a common economic rival, is happy to watch them squabble.

America's trade envoy, Katherine Tai, has suggested a second possibility for Europe: it should simply respond to the IRA with a jumbo subsidies programme of its own. That would indeed level the playing field—if Europe could afford it. Some countries can. Germany, say, has lots of industry and little debt. But if it splurges on aid to domestic firms, that would deal a harsh blow to the EU's single market. A €200bn ($206bn) German plan to help households and businesses deal with higher energy prices has irked other Europeans. How can a Slovak firm compete with a German one, given the Slovak government's tiny budget? Here the divide is between big EU countries with deep-pocketed governments and big global firms, and smaller countries that have neither.

A third option would be to imitate America's subsidy-fest, but have it funded by the EU. Some would like a reprise of the NGEU, a €750bn post-pandemic fund raised by joint borrowing that will be repaid mainly by rich countries but will be spent across the bloc. Mere talk of such a scheme has reopened the oldest European rift of all, pitting spendthrift southerners against skinflint northerners who don't want to subsidise them. It looks like a non-starter.

Trade offs

European grumbling about American protectionism would carry more weight if the EU hadn't itself already devised policies quite similar to Mr Biden's. Mr Macron proclaims the need for "strategic autonomy" so loudly and so often that America has clearly overheard. No European scheme is as brazenly trade-hampering as the IRA. But the EU's planned tariffs on imports from countries with no intention of cutting carbon emissions are protectionism-adjacent, as are new rules designed to keep some foreign firms from investing in the EU. And while it is true that subsidies paid out in Europe are also available to foreign firms, local ones know better how to lobby to get more than their fair share. Europe is getting burnt by American policies, but it helped start the fire. ■



Looking after the elderly

Wear and care

Britain's social-care system is understaffed and under pressure

The National Health Service (NHS) in England is under unprecedented strain. So it is baffling that more than one in ten of its beds are occupied by patients who do not need them. Some 13,600 inpatients are medically ready to be discharged yet remain in hospital—more than double the number five years ago. This is bad for them. It is even worse for the sick people waiting outside in ambulances, queuing in record numbers to get in.

Discharging a patient requires a dizzying amount of administrative work, much of it still done on paper. "It is easier to track a pizza than it is our patients across health and social care," says John O'Connell, who is leading an NHS pilot scheme to digitise the process. One problem, however, cannot be solved by technology. Increasingly, when elderly patients are ready to leave, there are no carers to look after them.

In 2021 the number of workers in adult social care fell by 50,000, the first decline in the decade that there have been records. There are 165,000 vacancies; one in 11 posts is unfilled. As the workforce dwindles, so does the quantity and quality of care on offer. The proportion of older people receiving state-supported long-term care is decreasing, but this does not seem to be because their needs are diminishing. Public satisfaction with social care fell from 29% three years ago to a dismal 15% in 2021.

Frustration stems in part from a complicated system. Long-term social care, consisting of both in-home care and care in nursing and residential homes, is supplied by thousands of mostly private providers. It is difficult to get publicly funded care. In order to qualify, a person must typically be deemed by their local authority to have both high needs and assets of less than £23,250 ($28,100). Separate funding streams hobble efforts to integrate the NHS and the social-care system: money for social care is still primarily funnelled to local authorities through the Department for Levelling Up, Housing and Communities, not the Department of Health.

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— The Elizabethan era

More fundamentally, in the decade from 2010 the funding of local authorities fell by half in real terms. Some losses were made up by rises in local council tax and by the introduction of a special social-care "precept", or levy. But in 2020-21 prices, social-care spending still dropped from £514 per adult citizen in 2010-11 to £478 per adult ten years later.

Josh Hawker of AbleCare Homes, which runs six care homes in the south-west, says his firm needs £800-1,000 per week to look after a client. That seems cheap given that it costs the NHS at least £2,500 per week to keep someone in hospital. But Mr Hawker says that Bristol city council pays £771 for each state-funded client, almost irrespective of their needs. The "council just aren't paying what it costs to look after people", he says. Self-funders, who make up the remaining third of residents, end up paying more to subsidise others.

The miserliness exerts downward pressure on wages. In March the median hourly wage of a care worker was £9.50, less than that for an easier job stacking supermarket shelves. One of Mr Hawker's employees had been an "excellent" care worker for a decade. But when she quit for an entry-level job as an administrator in the NHS, she ▸▸

instantly received a pay bump of 30%. Some providers fill gaps with pricey agency workers. Others make do with fewer staff.

The losers are among society's most vulnerable. Age UK, a charity, estimates that around 2.6m adults who need care are not receiving it. In the first quarter of 2022, 2.2m hours of home care could not be delivered because of staff shortages. Providers such as Right at Home, a home-care franchise, are focusing more on self-funding clients. "It means we can pay our workers more," says Lucy Campbell, the CEO.

Care homes must contend with soaring energy costs, too. That means making tough choices. At best, carpets grow shabbier and walls aren't repainted. At worst, clients with more complex (ie, costlier) needs are turned away. Profit margins are at their lowest since the Care Quality Commission, a regulator, began monitoring them in 2015. "You'd be mad to open a care home at the moment," says Mr Hawker.

The autumn statement did bring some relief. Jeremy Hunt, the chancellor of the exchequer, pledged up to £7.5bn of extra money for social care over two years, a chunk of which will come from allowing local authorities to raise council tax. Around a third of the money is tied to hospital discharges, to be split with the NHS; some of the rest will probably go on wages.

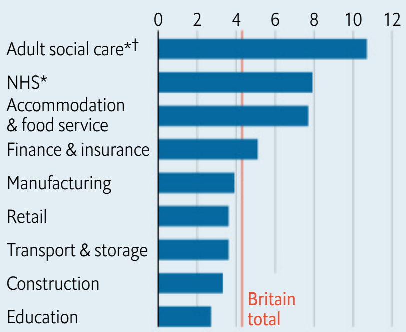
Mr Hunt described the cash as "the biggest increase [in social-care funding] under any government of any colour in history". But the money fell short of his own assessment of what was needed when he chaired the health and social-care select committee: in December 2021 he said that social care needed an extra £7bn a year.

"These are tiny sums of money given the issues," says Geoff Butcher, who runs Blackadder care homes in the West Midlands. "I honestly cannot see them addressing the problem." Clive Lewis, the leader of Wokingham council, in the south-east, agrees. To save money for social care, he is still considering reducing the bin collection from weekly to fortnightly. He is already relocating council employees in order to rent out the top two floors of their offices.

Some of the extra cash has been found by deferring a plan to cap the lifetime costs of personal care paid by individuals in England at £86,000. Councils say that the cap could never have been implemented by October 2023, as originally scheduled. Others (including the plan's architect, Sir Andrew Dilnot) feel that delay is short-sighted: the introduction of a cap would bring peace of mind to many. Around one in seven over-65s face bills of more than £100,000 for their own care. The government is plugging holes in social care but "the public wants more than that," says Simon Bottery of The King's Fund, a think-tank. "They want a better, fairer system." ■

Vacant shares

Britain, job vacancy rate by sector, Feb-Apr 2022, %



Source: NHS Digital, ONS, Skills for Care

*England, March 2022 †Independent sector

The census

Few on pews

Christianity is a minority religion in England and Wales

At times and in places, Britain can still look and feel like a Christian country. December, when pubs and high streets sparkle. The House of Lords, where 26 seats are reserved for bishops from the Church of England (CofE). The state's deep entanglement with its established church was vividly illustrated in September when Queen Elizabeth, Defender of the Faith and Supreme Governor of the CofE, was buried with spectacular Protestant pomp.

Most Britons are no longer connected to these things by religious belief. Very many people who celebrate Christmas are not marking the birth of their saviour. The presence of senior clergy in Parliament's upper chamber may mean more diversity of views but has long been an anachronism. Many people who filled the streets outside Westminster Abbey during the queen's funeral were grieving a beloved monarch, not praying for her soul. For years only a small (and falling) proportion of Britons have regularly gone to church; polls suggest the figure is now around 5%.

The ebbing of Christian belief in Britain reached a watershed moment on November 29th, when a fresh batch of figures from the 2021 census were published by the Office for National Statistics. They showed that, for the first time, less than half of the population of England and Wales consider themselves to be Christians (see chart). Their number fell by 17% in a decade, to 27.5m; the number of people who ticked the "no religion" box rocketed by 57%, to 22.2m.

Yet even as England is becoming more secular, some religions are growing. The census showed that the number of Muslims has risen by 42%; they now constitute 7% of the population. British Hindus hit the million mark for the first time. These changes reflect big demographic shifts. One in six of those who filled in the census was born abroad, compared with one in ten a decade ago. Three cities are "majority-minority": Birmingham (51.4%), Leicester (59.1%) and Luton (54.8%).

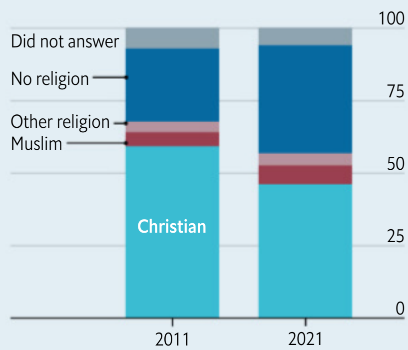
If immigration continues to rise, secularisation will slow. Immigrants tend to have a reviving effect on all religions; that is largely why church attendance has held up better in London than it has in other places. The capital is the least secular region, Wales the most. (Scotland's census was delayed for a year by the pandemic.)

The revelation that Christianity is now a minority religion is being bewailed by some on the right. But will passing this symbolic threshold actually change anything? It could influence discussions over the state funding of faith schools. Most are still Christian; an increasing number are not. There are concerns that non-Christian faith schools may exacerbate ethnic segregation: Hindu schools, for example, tend to be populated only by children of immigrants from south Asian countries.

Groups that campaign against religious privilege, like the National Secular Society, use such moments to argue it is past time to cut ties between church and state. The Labour Party is proposing to abolish the House of Lords, bishops and all. Yet the most distinctive element of Britain's form of theocracy is likely to adapt rather than disappear. Though he promised in September to "inviolably maintain and preserve the settlement of the true Protestant religion" King Charles III seems taken by the practices of other believers, too. At his coronation next May, he may try to cast himself as defender of all faiths. It helps that he is king alongside a Hindu prime minister and a Muslim mayor of London. ■

Way of the cross

England and Wales, identifying by religion, %



Source: ONS Census

Bagehot | If you don't like it, there's the door

Britain has historically been a country of emigration. The idea of leaving is in the air again



Adverts on TalkSport, a radio station that does what it says on the tin, reveal the state of the nation. McDonald's advertises for workers in Britain's tight labour market. Santander, a bank, warns against falling victim to fraud, which is rife. Amid it all, the government desperately reminds listeners that it has already knocked £400 ($480) off their energy bills.

But every 15 minutes the listener is treated to an alternative. "Build a life in Western Australia," blares out a man with a questionable Aussie accent. "Find the work and lifestyle you want in Western Australia." White Van Man is implored to ditch Britain and head 9,000 miles (14,500km) south-east for a new life in Perth, which has sunshine and jobs galore in construction and manufacturing. It is, says the jobbing actor, "the lifestyle you deserve".

Migration policy in Britain is framed almost entirely by people arriving. More attention should be paid to those on the way out. In the year to June 2022, over 1m people entered Britain. But people come and go. About 560,000 left the country in the same period, as immigrants returned home to the EU and beyond, and Britons took a punt on starting a new life elsewhere. Unless things improve, many more will follow.

Historically, Britain is a country of emigration rather than immigration. During the 19th century only Ireland, Italy and Norway exported people at a higher rate. The history of those who arrived from the Caribbean on HMT *Empire Windrush* in 1948 is well known. The tales of the millions of Britons who boarded the *SS Canberra* and other ocean liners for a new life in Australia and beyond is overlooked, argues David Edgerton, a historian. Britain only became a country of predominantly net immigration in 1983.

When emigration last haunted politicians, Britain was in a rut. In 1974 Jim Callaghan, then the foreign secretary and a future prime minister, joked: "Sometimes when I go to bed at night, I think that if I were a young man I would emigrate." After all, Britain was a country with stagnant growth, high inflation, high taxes, an energy crisis and a state in dramatic need of overhaul.

The circumstances that had Callaghan dreaming of life elsewhere then are similar to today's. Young, potentially mobile workers have it hardest. Graduate-trainee salaries have fallen by 22% in real terms since 2010, according to High Fliers, a graduate-recruitment research agency. An uneven tax system whacks thrusting youngsters. Overall the British state has a smaller tax take than its European neighbours. But those on a typical professional salary with a student loan face marginal rates (41%) similar to those in continental Europe and higher than in Australia and Canada.

People leave when opportunity lies elsewhere. The realisation that Britain is not, by north European standards, a rich country is entering the country's bloodstream. British GDP per person is now below countries it used to rival, whether Germany, Australia or Canada. Britain's comparison country is increasingly Italy, a country where it is the norm for young people to leave, rather than an exception. In a few years' time the point of comparison may be Poland, which thanks to tearaway growth, is always gagging for workers. In the 1980s "Auf Wiedersehen, Pet", a TV comedy about a group of Geordie builders working in Germany, became a hit. A 2030 remake might be titled "Do Widzenia, Pet".

For now, the last ones in are the first ones out. A net influx of EU citizens has turned into an exodus. Fanny, a 25-year-old Frenchwoman who graduated from the London School of Economics in 2020, is one. Of the roughly 20 French students on her course, she was one of only two to stick around. Now she too is departing, after taking a job in Marseille. Her salary will be the same in net terms but instead of paying for a room in a dingy flatshare in east London, it will stretch to a one-bed flat. If a job in London, where British salaries are highest, requires living in a flat-share until your 30s no wonder people consider going elsewhere.

Those with the easiest path of departure are the most likely to take it. Doctors possess a golden ticket: few countries turn them away. Given wages have dropped by 10% in real terms since 2010 and working conditions are worsening, it is little surprise that many doctors leave. Half of the 10,000 doctors who stopped practising in 2021 intended to go abroad (about 120,000 doctors work in the NHS in England). One in three doctors trained in Britain go on to leave the country, according to a survey by the General Medical Council. Britain has become a temperate Philippines, churning out health-care workers who head elsewhere.

The emigrant song

At this point in the political and economic cycle, all sides are fed up. Labourites despair; Europhiles seethe that their life's work has been smashed up; Brexiteers moan that the country is closer to London-sur-Seine than Singapore-on-Thames. Meanwhile, a recession looms. It is natural for people to think of leaving. But talk about a new life abroad is often just that. Actually doing it is tricky. Visas must be obtained, job offers secured, flights booked, bureaucracies navigated, homes found and friends made. The history of migration is the history of the vast majority of people staying put.

Yet emigration from Britain slowed only when destination countries such as Australia tightened their immigration policies. Now, after years of lockdowns, gaps in labour markets have become canyons and the likes of Australia and Canada are gagging for arrivals, as TalkSport listeners can attest. When immigration to Britain hits 1m, the government panics. When Canada reached the same relative rate this year, its government boasted.

Things in Britain can improve. But if not, leaving is once again an option. In 1978, a year before she defeated Callaghan in an election, Margaret Thatcher told a dining companion about her plans if she did not win: "We'll always stay...but we'll work very hard with the children to set them up with careers in Canada." Emigration has long been a British solution to British malaise. ■



Sexual health

Talking about it at last

Lots of people suffer from sexual problems. The taboos around discussing them are weakening

"My cousin and I were driving in the car one day and my mouth started moving before my brain knew what it was saying," says Angus Barge, a 30-year-old who lives in London. "And I basically told him that for the previous six months I'd been struggling to get it up." Erectile dysfunction (ED) affected more than just his romantic life, says Mr Barge. He lost confidence and had trouble concentrating at work because he was preoccupied with the problem. After a long silence, Mr Barge's cousin, Xander Gilbert, told him that he had been struggling with the same thing on and off since he was a teenager.

Their experience is not unusual. Surveys of men in America, Germany and Spain have found that around 20% suffer from ED at some point in their lives. Women can struggle with sex too. Surveys suggest that around half of British women experience sexual difficulties that had lasted for more than three months in a given year. In Canada, researchers found that nearly 40% of women and 30% of men aged 40-59 had some sort of sexual problem, such as low desire, pain during sex, erection problems or difficulty reaching an orgasm.

No laughing matter

Getting help is tricky. Overstretched health services struggle to provide quick treatment. Many doctors end up prescribing drugs like Viagra to men whose problems are psychological, not physical, because there is nothing else they can do. A mix of embarrassment and ignorance means many of those suffering from sexual dysfunction never seek treatment in the first place. In France, for example, only a quarter of people with sexual problems contact a doctor. Mr Barge says he scoured the internet for solutions to his problem, trying various pills and supplements to no effect.

Sexual problems remain cloaked by shame and embarrassment, rather as mental-health ones did two or three decades ago. Patients are often reluctant to seek treatment; many doctors see the problem as trivial. Even in the liberal countries of western Europe, sex education mostly focuses on preventing diseases or unwanted pregnancies. Even dedicated sexual-health clinics tend not to have much to offer those struggling to have satisfying sex. Fortunately, that is beginning to change.

Sometimes sexual problems can be an early hint that something is wrong elsewhere in the body. ED is often a purely psychological issue, especially in younger men. But in many cases it is at least partly caused by a narrowing of the genital arteries. That makes it an early warning sign of possible heart trouble. Suffering from ED is as good a predictor of heart disease as a history of smoking or a family history of coronary artery disease.

Sometimes the issues are simply distressing rather than potentially fatal. A clutch of British universities runs a decadal sexual-health survey called Natsal, one of the biggest in the world. In the most recent survey, completed in 2012, 7.5% of sexually active women reported painful sex, with a quarter having symptoms "very often" or "always" and for at least six months. ▸▸

Not all problems are strictly medical in nature. Discordance in sexual desire is a common problem. The most recent instance of Natsal also found that 38% of men and 49% of women with a partner said that the amount of sex in their lives was "about right". Nearly all of the rest, both men and women, said they wished for more. In many cases a gap between partners is related to differences in the level of enjoyment derived.

That matters. Besides being miserable for the individuals involved, sexual dissatisfaction is a big reason why marriages and long-term relationships break down. Data from places as diverse as America, Denmark and India suggest that problems with physical or emotional intimacy are a leading cause of between 20% and 50% of divorces. (Which in turn often make adults poorer and children less happy.)

As Mr Gilbert found, sexual problems can affect work, too. A study published in 2019 examined 52,000 men in countries including Brazil, China, Germany and Spain. It found higher rates of absenteeism from work in men with ED (7.1% compared with 3.2% over a six-month period), as well as substantially lower productivity when they were in the office.

Embarrassment—on both sides of the doctor's desk—means that sexual problems often go untreated. Even in the Netherlands, where people are more open about sex than in most other countries, patients want the doctor to open the discussion, says Woet Gianotten, a Dutch sexologist and emeritus professor at the University Medical Centres of Utrecht and Rotterdam. But medics can often themselves be reluctant. Many, says Dr Gianotten, assume that if the patient does not mention a sexual problem all must be well. Kristen Mark, who teaches a course on sexuality to medical students at the University of Minnesota, says that a lot of time in the course is devoted to practising plain speaking. "If they are talking to a patient we don't want them to have this awkward look on their face as if that's the first time they've ever said the word 'vulva'."

If embarrassment can be overcome, there are plenty of treatments available. Some doctors recommend a few sessions of "mindfulness", a trendy sort of meditation that helps to refocus the mind away from whatever is causing anxiety. The patent on Viagra, a popular medicine for erectile dysfunction, expired in 2020, meaning cheaper, generic versions of the drug are now widely available. In women, menopause is a frequent cause of sexual problems. Women in rich countries have had access to hormone-replacement therapy for many decades. Besides treating hot flushes and insomnia, it can also help relieve the sexual symptoms of menopause.

Different levels of sexual desire, meanwhile, are often related to differences in the level of enjoyment derived. Another sexual-health survey, this time for Indiana University, found that, in America, men have orgasms in consensual sexual encounters about 85% of the time, compared with 63% for women. The reasons for the gap are complex but much has to do with misplaced ideas about what "normal" or "good" sex is, says Dr Mark. Since talking frankly about sex is difficult, many people absorb tropes from Hollywood or the porn industry. Unsurprisingly, these do not translate well to real life.

Letting the light in

Despite the prevalence of sexual problems, very few countries have made their treatment part of routine primary care. France stands out for its attitude to post-natal women. Childbirth can wreak havoc with a woman's pelvic-floor muscles. Among other problems, that can stop them having sex for a long time after giving birth. French women are entitled to appointments with a pelvic physiotherapist, starting just six weeks after birth. The Netherlands allows disabled people, such as those with paralysis, to request sessions with specially trained sex workers. (In the past the cost of the service was covered by social insurance but after cuts to social spending it is no longer free.)

Some governments are beginning to focus on promoting pleasure as much as treating the lack of it. In many cases, this new approach was prompted by the covid-19 lockdowns. Single Dutch people were allowed to meet with a "sex buddy" when contact between households was restricted. Irish health authorities gave their citizens recommendations on masturbation. Colombia's health ministry dispensed guidance on the use of sex toys and consensual cybersex.



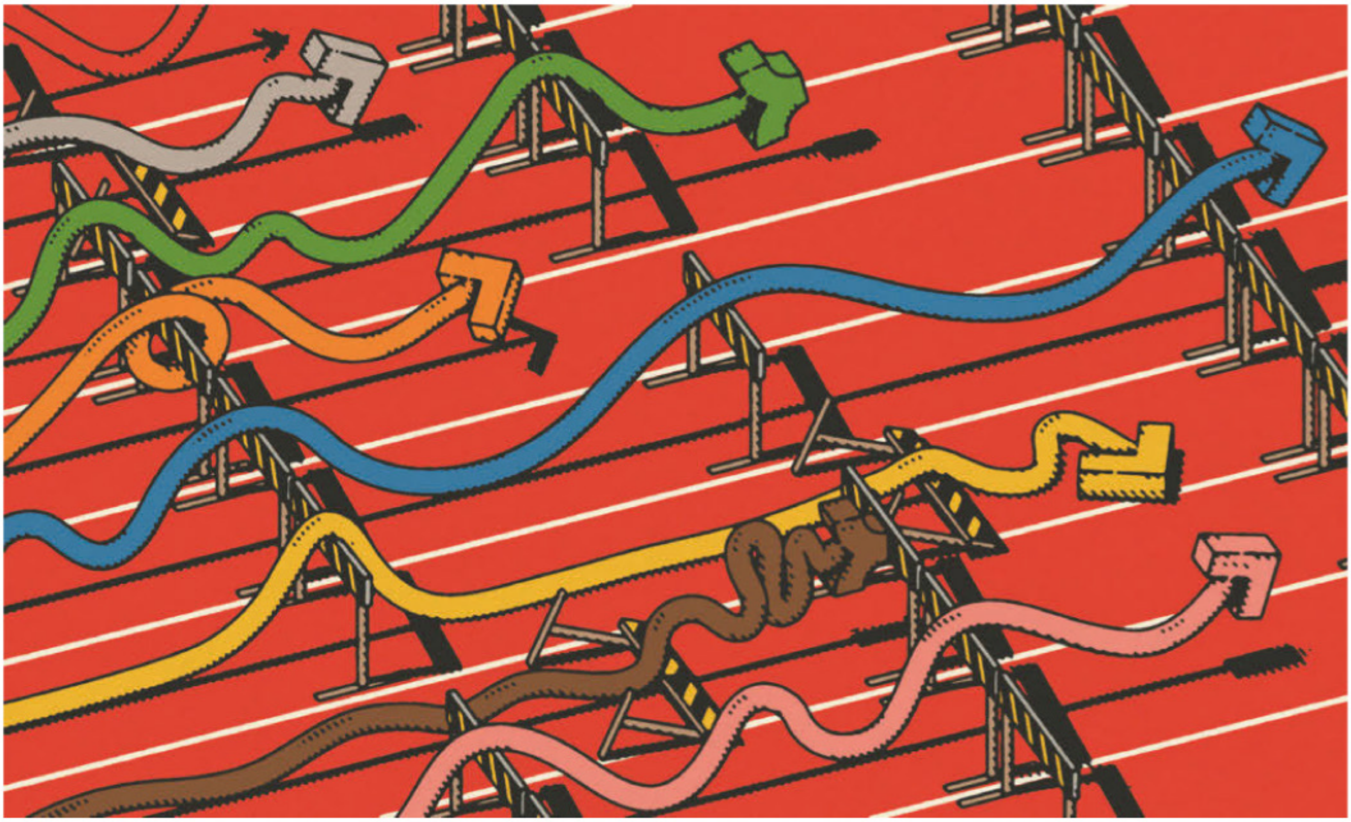
For those who prefer not to take sex tips from bureaucrats, the sex-toy industry offers another avenue for relief. Savvy marketers are positioning their products as "wellness devices", in an attempt to escape the industry's grubby aura and to align with shifting attitudes among customers. Perhaps as a result, it is growing fast. PWC, a consultancy, reckons about 25-30% of adults in America, Britain and France use sex toys. A third bought their first device in the past three years. Walgreens, an American chain of chemists, and Boots, its British subsidiary, now offer dildos and vibrators on their websites, alongside ibuprofen and false eyelashes. PWC puts the size of the global market at $19bn in 2021, up from $11bn in 2016, making it roughly as big as the market for hair-styling products.

Apps are another popular option. Mr Barge's and Mr Gilbert's heart-to-heart led them to found Mojo, an app that provides exercises, education and support groups for those with erectile dysfunction. Mr Barge reckons that many users whose issues are psychological see an improvement within six weeks or so. A Spanish startup, MYHIXEL, offers app-based therapy for premature ejaculation. Germany has approved an app to treat vaginal pain made by HelloBetter, a startup, which users can pay for with their medical insurance.

Information can be particularly hard to come by in poor countries, which often have stronger taboos around sex. An Indian website called Agents of Ishq, started by Paromita Vohra, a film-maker, is one attempt to fill that gap. It features humorous video skits, comics and other entertaining materials that cover things like consent for sex and masturbation (including an annual masturbation poetry contest). It also publishes stories about sex and desire submitted by ordinary people. Many of the comments, she says, are along the lines of "Oh, I'm not alone...somebody else also feels that way."

Some experts, meanwhile, think the problem might be better addressed with prevention rather than attempts at curing problems after they arise. Although most teenagers in rich countries attend sex-education classes at school, the focus tends to be on avoiding bad things, such as diseases or unwanted pregnancies. Discussion of pleasure is often conspicuous by its absence. In poor places, the subject is often not discussed at all.

At the very least, says Mojo's Mr Barge, sex education in schools should aim to be realistic, and to cover health, pleasure and potential problems. It should aim to remind teenagers that "sex isn't like it is in films and it doesn't always go right. And even as young, healthy people, you're going to have problems and that doesn't mean you're broken. It's perfectly normal for sex not to go to plan." ■



Big business

America's best firms...and the rest

New winners and losers are emerging after three turbulent years

Which firms have emerged as the winners from the chaos of the past three years? Perhaps the most unusual period for business in a generation began in the spring of 2020, when lockdowns brought parts of production to a standstill. A deep but brief recession was followed by a frantic recovery. Then came inflation. A world economy already in the grip of a high-speed cycle is now experiencing the fastest increase in interest rates since the 1980s. Graham Secker of Morgan Stanley, a bank, argues that the policy response to covid-19 has shocked the economy out of secular stagnation—the slow-growth, low-inflation malaise preceding the pandemic—and marks a new era.

It should be no surprise that the business environment has changed profoundly. To take stock of this we have examined which American industries and firms have done best over the past three years, based on stockmarket performance. The headline is that market leadership has flipped dramatically. The digital hares have given ground to old-economy tortoises. Big tech is no longer running away with the race. Firms once derided as obsolete and sluggish suddenly look vital again.

We have chosen January 1st 2020 as the starting date for our analysis. Since then, the S&P 500 index of leading American shares has risen by 23%. The best-performing industry sector is energy, followed by information technology (IT). Health care has done well, as might be expected during a public-health crisis: the second-best-performing company in the S&P 500 is Moderna, a leading vaccine-maker, whose share price is up by nearly 800%.

Industrial companies have kept pace with the index, as have consumer staples. Businesses that serve discretionary parts of consumer spending, hurt by inflation, have lagged behind. The worst-performing sectors are real estate, banks and communication services. Sitting at the very bottom of the performance league table are cruise-liner firms, such as Carnival, that have seen their debts soar and their shares drop like an anchor towards the ocean floor (see chart on next page).

Measuring performance by share prices has its flaws. It is hard to look at the rollercoaster stock price of Tesla (up by around 550%) without being mindful of the influence of investor fads and shifts in risk appetite. But over time, business success is embedded in market prices. It also helps to understand how investors' perceptions have shifted over time. To capture this we have split the period into three stages. The stay-at-home phase, the reopening phase, and now the inflationary stage.

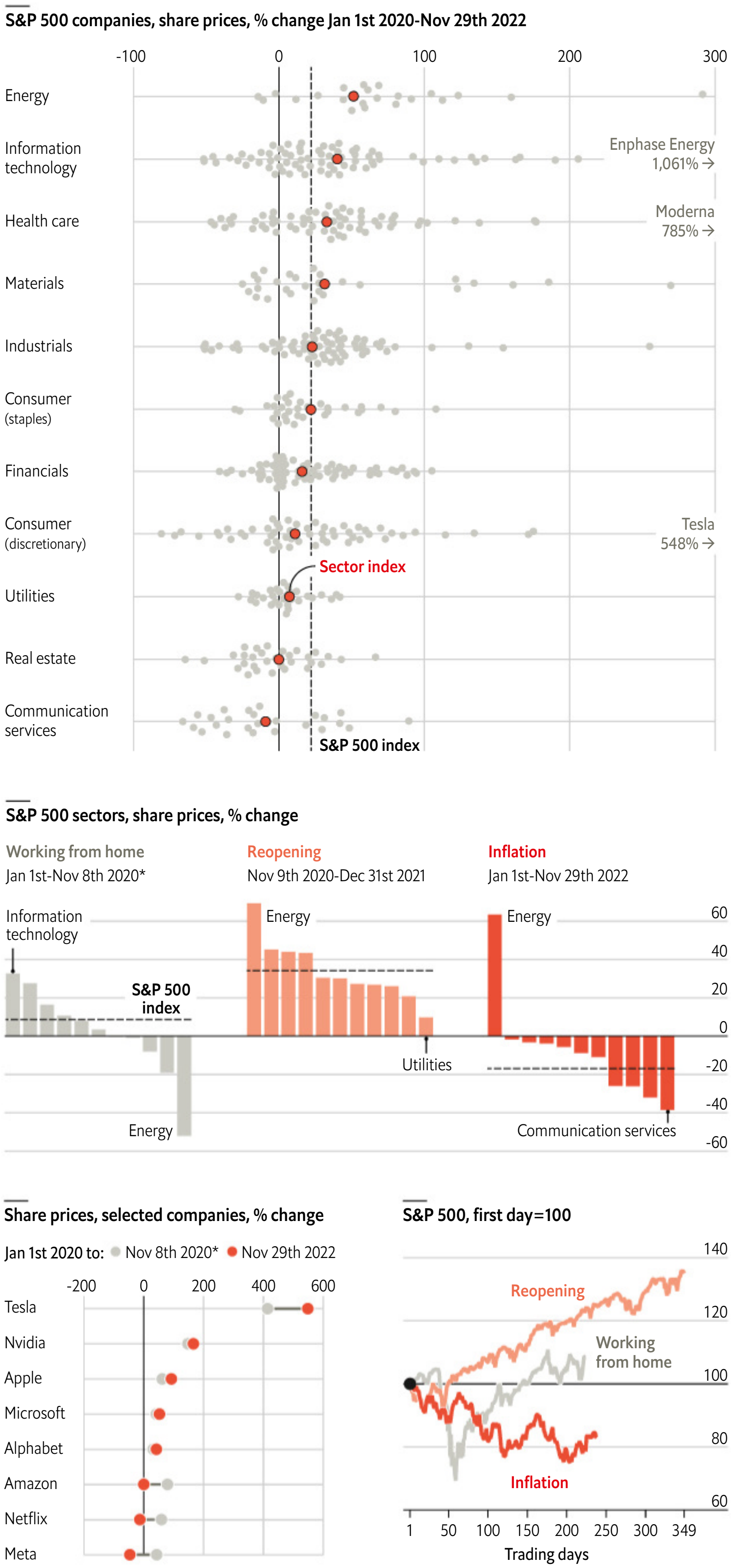
The signature investments of the pre-pandemic era of secular stagnation were asset-light companies: principally software firms, which benefit from network effects, but also branded-goods companies. Firms based on ideas and information were favoured over ones that relied on physical capital. The trade was to buy "bits" and sell "atoms".

The first part of the pandemic amplified these trends. The stay-at-home phase lasted until November 8th 2020, the day before ▸▸

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→ Recent turmoil can be split into three phases. Each favoured different sectors



*Day before first covid-19 vaccine results announced Sources: Refinitiv Datastream; *The Economist*

the test results of the Pfizer vaccine were announced. The big winners were tech, consumer discretionary (Amazon rose by 79%) and communication services (Netflix was up by 59%). The losers were real estate, banks and energy. There is little mystery to this. Stuck indoors, people relied on software and deliveries. Offices were barely occupied; there was little driving or air travel (bad for oil firms). And banks were hit by lower interest rates and fears of defaults.

During the next, reopening phase, leadership shifted. Energy was the big winner, followed by financials (buoyed by optimism and rising asset prices), tech and real estate. Inflation emerged as a theme, but at that stage was seen as a symptom of growth and not yet as a threat to it.

In the third phase, which began at the turn of this year, the Federal Reserve has pivoted from being relaxed about inflation to being spooked by it. Expectations of interest-rate increases have risen and the stockmarket has slumped. All sectors except energy have been crushed. Among the worst hit have been the winners of the first phase: tech, consumer discretionary and communication services. The time horizon of investors has shortened. The share prices of businesses whose earnings power is projected furthest into the future, notably tech firms, have been trashed. Atoms are now back in favour.

Three long years

If you look over the entire three-year period the best-performing industries are energy and IT: respectively the archetypes of the "value" style of investing and its antithesis, "growth". The sequencing of their performance has been in mirror image. Energy—particularly oil firms, such as ExxonMobil and Chevron—had a terrible 2020 followed by two bumper years. Oil has gained back more than it lost.

Technology firms had two blowout years before a reckoning in 2022. But there is plenty of dispersion. Within the big-tech category of the very largest firms there are big gaps in performance: shares of Meta, the owner of Facebook, have lost almost half of their value even as Apple's shares have soared. The share price of Nvidia, a chip designer, is up by 166%, even as that of Intel, a chip pioneer from an earlier age, has slumped.

Which of the trends of the past three years will persist and which will prove more transitory? Tech is running into structural problems. The firms that grew rapidly in the 2010s, such as Amazon and Netflix, are now maturing businesses. The tech giants compete more vigorously with each other. Now that they are so big, if demand in their particular market is dented, they cannot avoid the pain.

The original attraction was that tech firms were capital-light. Once a digital ▸▸

platform is set up, adding more customers does not add as much to costs as it would for a traditional firm. "Amazon got to 5% of US retail sales much faster, and using much less capital, than it took Walmart to get to 5% of US retail sales," says Robert Buckland of Citigroup, a bank. Yet it has become more apparent that big tech relies on atoms as well as bits. Mr Buckland notes that Amazon's capital budget next year is more than twice as large as ExxonMobil's. Meta has already spent a fortune on establishing a virtual-reality platform, of which investors have taken a dim view. Netflix's margins have been squeezed by the higher spending on content.

It follows that the ability to marshal capital and use it efficiently is likely to become a key point of differentiation for performance in the new era of higher interest rates. Oil companies used to be notorious for blowing profits on exploration. But pressure from shareholders to improve returns on capital invested and the stigma associated with new investment in fossil fuels has raised the bar for deploying capital. These days it is big tech that blows cashflows on capital spending. Whether mature tech companies can find more discipline will determine whether they can perform better.

More broadly, the increased cost of funding will give a lift to established firms across the economy. When capital is abundant, almost any venture can get pots of money from investors. Tesla's boss, Elon Musk, exploited the period of bountiful capital and investor patience to build an electric-vehicle powerhouse that poses a mortal threat to General Motors and Ford. Now that capital is much scarcer, a would-be Tesla would not get such generous backing, tilting the scales towards companies that can generate cash from legacy investments. Incumbents can feel less threatened by potential disrupters.

The upshot of all of this is the hare that is technology, though by no means lame, is not as pacey as it once seemed. Meanwhile the old-economy tortoises have emerged from their shells with a surprising spring in their step. Still, the strangest business cycle in living memory is not over yet. Expect more surprises. ■

Video games

Game on or game over?

Microsoft's bid for Activision-Blizzard prompts questions about the future of gaming

THE HIGHEST-GROSSING film of the year so far, "Top Gun: Maverick", took $1bn in its first month. The biggest game, "Call of Duty: Modern Warfare II", took the same amount in just ten days. Spurred on by the pandemic, which saw video-game spending increase by nearly a quarter in 2020, the games industry will be worth more than $170bn this year in worldwide revenues, about five times as much as the global box office.

Gaming's growth is drawing the attention of regulators. In January Microsoft, which makes the Xbox console, agreed to buy Activision-Blizzard, publisher of titles including the "Call of Duty" franchise, for $69bn. It is the biggest acquisition in Microsoft's history and by far the biggest in that of the games industry. Regulators from 16 territories have probed the deal. In the past two months Britain's Competition and Markets Authority (CMA) and the European Commission have scrutinised it in detail; America's Federal Trade Commission (FTC) is expected to make a decision imminently. If any of those three mega-regulators says no, it could be game over.

Trustbusters' immediate concern is the console market. For two decades Sony and Nintendo have had the upper hand in the "console wars", even as supply-chain problems have inhibited sales of Sony's latest PlayStation (see chart). Nonetheless, Sony worries that gamers might desert the PlayStation if Microsoft made "Call of Duty" exclusive to Xbox. Some 45% of PlayStation owners play the game, according to MIDiA Research, a data firm.

Sony's complaint seems a bit rich. "None of the console players are in a position to preach on exclusivity," says George Jijiashvili of Omdia, a research company, who notes that Sony has kept PlayStation games such as "Uncharted" and "God of War" off the Xbox. Microsoft in any case says that keeping "Call of Duty" on the PlayStation, where it rakes in hundreds of millions of dollars a year, is "a commercial imperative for…the economics of the transaction". Earlier this month it offered Sony a ten-year deal to keep "Call of Duty" on the platform. Phil Spencer, who runs the Xbox business, later told the *Verge*, an online publication, that the PlayStation would get not just "the next game [in the series, but] the next, next, next, next, next".

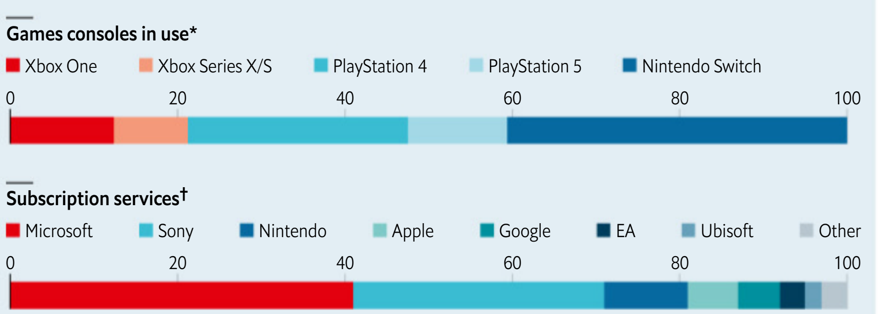
Such assurances might once have been enough. Not any more. Two things complicate the picture.

One is a change in the regulatory weather. Microsoft insiders grumble that until a few years ago the Activision deal would have sailed through. Lately, though, trustbusters have turned on big tech firms, alarmed at their rapacious growth. (Last year Microsoft became the second company after Apple to breach the $2trn mark in terms of market capitalisation, though its value has since dipped.) Under Lina Khan, a new head appointed last year, the FTC has launched investigations into Amazon, Meta and others. In September European judges upheld a fine of more than $4bn against Google for abusing its market power in mobile operating systems.

Britain's CMA, energised by Brexit and with a bulked-up staff, has emerged as an unlikely end-of-level boss in the antitrust game. It is investigating Google's and Meta's ad platforms, Amazon's marketplace and Apple's and Google's mobile browsers. Last month it ordered Meta to undo its acquisition of Giphy, a meme platform. Few had considered that deal a problem. The CMA has declared a preference for "structural" remedies, such as forcing companies to sell parts of their business, over "behavioural" ones, like forbidding them from doing certain things. That worries Microsoft, which seems prepared to ▶▶

Gamesmasters

Worldwide video-game market share, 2022, % of total



Sources: Omdia; Ampere Analysis *Forecast †Q2

accept restrictions on its use of "Call of Duty" but would be loth to let it go.

The second complication is a change in the games market. Microsoft plays up the weakness of its position: "Last place in console, seventh place in PC and nowhere in mobile," as it told the CMA. Yet it has taken a lead in the emerging business of game subscriptions and is well placed in the still-newer one of cloud-based gaming, in which the action is streamed, Netflix-style. Microsoft accounts for 41% of the subscription market, against Sony's 30% and Nintendo's 10%, according to Ampere Analysis, another research firm. Among subscription services with game libraries (as opposed to those dedicated to multiplayer gaming, for instance), Microsoft's Game Pass service has a share of 57%.

Adding "Call of Duty" to Microsoft's library would make Game Pass still more appealing, regardless of the title's continued availability on PlayStation. Indeed, as Mr Jijiashvili puts it, "It will make Game Pass even more valuable when you have this game available elsewhere for $60 a pop."

A shift towards subscriptions and cloud gaming could "reshape the competitive landscape", argues the CMA, which fears the Activision merger could "tip…the market in Microsoft's favour before future rivals have a chance to develop". Yet it is unclear when—or whether—such a shift will in fact happen. Subscription gaming is growing fast, but even in five years will represent less than 10% of game spending, estimates Ampere.

Streaming from the cloud is still less popular. Google will shut down Stadia, its unloved cloud-gaming service, in January. Amazon's Luna service has yet to take off. Microsoft, which separately runs Azure, the world's second-largest cloud network, is well placed for cloud gaming if and when it emerges. But for the time being cloud streaming services represent well under 1% of games spending.

In defending its Activision acquisition, "Microsoft's argument is positioned in the present," says Piers Harding-Rolls of Ampere, whereas "the CMA is more focused on the potential and the longer-term implications." Most observers expect the acquisition to go ahead eventually, with a few conditions; blocking the deal on the basis of what the games market might look like in the distant future would be hard for regulators to defend. Nonetheless, trustbusters' past short-sightedness in reviewing tech mergers has made them ultra-vigilant about the implications of today's deals. Microsoft is playing the mergers game on the hardest setting. ■

Correction Last week, in "Giving up on China", we miscalculated multinationals' sales in China in 2016. These were $413bn, not $368bn as we wrote. A related chart has been updated online. Sorry.



Energy in Germany

The hand on the tap

BONN

Meet the man who could decide the fate of Germany's gas-addled industry

WHEN KLAUS MÜLLER accepted the job as boss of the Federal Network Agency, Germany's regulator for electricity, natural gas, telecommunications, post and railway markets, he hoped he would spend his time on expanding renewables and laying fibre-optic cables. A former state minister for the environment and agriculture in Schleswig-Holstein, he is close to Robert Habeck, the federal economy minister and a fellow Green. He cares deeply about the Greens' favourite causes, such as a rapid shift to carbon-neutrality, which make captains of German industry uneasy.

Those priorities will have to wait, Mr Müller admits to *The Economist* at his office in Bonn. He took over a few days after Russia attacked Ukraine. From day one he has spent the bulk of his time thinking about the supply and distribution of natural gas—the lifeblood of Germany's industrial economy, the flow of which has been staunched by Russia in response to Western sanctions. "We are in significantly better shape than everyone forecast this summer," he says reassuringly. But, he quickly adds, it is not an all-clear.

The war in Ukraine has turned Mr Müller from an anonymous bureaucrat into a celebrity. He is a frequent guest of popular TV talk shows and has tens of thousands of followers on Twitter. His agency's detailed updates every weekday on the state of gas supply are read by millions. When he strikes an optimistic note, the nation breathes a collective sigh of relief. When he sends a note of caution, as he did in a tweet on November 28th warning that the temperature in Germany for the next seven days would be 2°C below the average for the period over the past four years, it shudders.

The reason Germans—and German industrialists in particular—hang on Mr Müller's every word is that he could yet be in charge of rationing gas for the country. Were the government to take the unprecedented step of declaring a gas emergency, his agency is ready to mobilise 75 staff working in shifts around the clock from a windowless room in one of the agency's nondescript 1960s office blocks, equipped with huge communication terminals, its own diesel-powered generator for electricity, a water tank, showers, around 20 camp beds and stocks of freeze-dried food.

Hospitals, schools, kindergartens, the armed forces, the police, fire departments, prisons, households and small businesses such as bakeries would get priority, Mr Müller explains. Big businesses (as well as energy-hungry luxuries such as heated swimming pools, saunas and the like) would be first in line for significant cuts. Beyond that, Mr Müller says, there is no preordained order for whose gas gets cut first. The decision will take into consideration six criteria, including a company's size, what it produces (makers of food and medicines would probably be spared) and how much time a company needs in order to reduce output without damaging its plant and equipment. To streamline the process, the agency has developed a digital gas-security platform for the country's 2,500 biggest corporate gas users.

Yet even managed carefully, such a gas emergency could lead to a severe disruption of supply chains, bankruptcies and unemployment. One particularly gloomy forecast in late September by the IFO Institute in Munich and other leading economic-research institutes, estimated that Germany's GDP could shrink by 7.9% next year should such an emergency be declared. That would be worse than the recessions sparked by the global financial crisis of 2007-09 and the covid-19 pandemic.

This horror scenario may be avoided this winter. Gas-storage facilities are filled to the brim with Russian gas imported earlier this year, before Vladimir Putin, Russia's warmongering president, all but turned off the taps in September (Russia used to provide 55% of German gas imports). Germany's main supplier of piped gas is now Norway, followed by the Netherlands, Belgium and France. By Christmas Germany will have three floating import terminals for liquefied natural gas (LNG) in Wilhelmshaven, Lubmin and Brunsbüttel, built in record time. By next winter the country should have another three or four LNG terminals.

Even this, though, will not compensate

for the loss of Russian gas, as Mr Müller points out. Germany needs to continue to use at least 20% less gas than it historically has, which will get harder as the days get colder. “Please save gas in spite of the cold!” he tweeted along with the temperature forecast on November 28th.

So far Germans have listened to his pleas. A study by the Hertie School, a university, published on November 1st, found that German industry used 19% less gas in September than would otherwise be expected for this time of year; households and smaller businesses reduced their gas consumption by as much as 36%. On November 22nd the IFO Institute released a survey showing that of the 59% of manufacturers that use natural gas for their production, three in four managed to save gas without reducing output. What happens next is less clear. Many companies say they don’t think they can save more gas without cuts to production.

“Germany’s preparation for this crisis was suboptimal,” admits Mr Müller in a characteristically understated manner. He nevertheless thinks that Germany has at least learned three lessons from the energy crisis. First, “we learned to never again expose ourselves to such a cluster risk,” he says, referring to Germany’s historic over-reliance on Russian gas. This realisation is already influencing a nationwide debate on the country’s deep economic ties with another autocracy, China. His two other lessons—the need to be less dependent on fossil fuels and to bet massively on renewables—should also make the country more resilient in the long run. And they allow Mr Muller to think about some of the Green priorities for Germany that he had been hoping to focus on. ■

Bartleby Ins and outs



Hybrid working is here to stay. But lots of open questions remain

At first the question was how quickly people would get back to the office. Then it was whether they would ever return. Almost three years after reports surfaced of an unusual respiratory illness in Wuhan, the legacy of the covid-19 pandemic on employees in America and Europe is becoming clear. The disease has ushered in a profound change in white-collar working patterns. The office is not dead but many professionals have settled into a hybrid arrangement of some office days and some remote days.

Hybrid working has much to recommend it: flexibility for employees, periods of concentration at home, bursts of co-operation in the office. A new paper from Raj Choudhury, Tarun Khanna and Kyle Schirmann of Harvard Business School and Christos Makridis of Columbia Business School describes an experiment in which workers at BRAC, a huge non-profit organisation in Bangladesh, were randomly assigned to three groups, each spending different amounts of time working from home. The intermediate group, who spent between 23% and 40% of their time in the office, performed best on various performance measures.

But a shift of this magnitude is bound to raise thorny issues. In workplaces that have moved to hybrid work, there are still plenty of open questions. One is how to handle the impact of less time in the office for new joiners and younger workers. Research by Natalia Emanuel of the Federal Reserve Bank of New York, Emma Harrington of the University of Iowa and Amanda Pallais of Harvard University shows that software engineers receive more online feedback on their code when the team sits next to each other. The people who get disproportionately more feedback from colleagues when they are in proximity are young engineers and female ones. These developers were also most likely to quit when the pandemic forced everyone to go remote.

Not every study points in the same direction. In a recent survey of hybrid workers in London, the youngest cohort was more likely than older ones to think that it was easier to put themselves forward for important tasks when working remotely. But according to Nicholas Bloom of Stanford University, making new employees spend more time than others in the office can be a good way of steeping them in company culture. Whatever expectations firms set for the bulk of their hybrid workforce, an extra day of commuting may make sense for newbies.

A second question concerns how strictly to enforce attendance on days when teams are meant to be in the office. An emerging consensus holds that there should be agreed “anchor days” on which people come in; since the idea is to spend time together, as many people as possible should be there. But one person on the team might have moved somewhere godforsaken for the scenery back in 2020; someone else might have asked to stay home to let the plumber in. In practice, therefore, hybrid working still often means a mixture of people on screen and people in the flesh.



“One virtual, all virtual” was an early refrain for these circumstances. At a meeting where some people were in the room and others were working from home, everyone dialled in on their own screens and deafened each other with feedback. But the research by Ms Emanuel and colleagues suggests that moving everything online is harmful. Before the pandemic, having a single colleague in a different building was associated with less feedback. Treating remote workers as second-class citizens may actually make sense on those days when people are expected to be in.

That logic also applies in reverse. One of the great worries about hybrid working is that it can encourage “proximity bias”, the phenomenon whereby bosses prefer employees with whom they have more face-to-face contact (“Fred may be useless but at least he’s being useless here”). Mr Bloom reckons that this problem can be alleviated if bosses who like the office make sure to work at home occasionally (Fred cannot gain as much of an edge by being seen if the boss isn’t always there to see him).

Other questions abound. How to define performance measures so managers do not spend time fretting about slackers at home? Do you require company-wide anchor days or team-level ones? The era of hybrid working is only just beginning, so it will take time for answers to emerge. But if there is a message from this first full year of hybridity, it is that flexibility does not mean a free-for-all. The elastic week needs some fairly rigid scaffolding.

Schumpeter | The other gig economy

If Ticketmaster is a greedy capitalist, so are Taylor Swift and Bruce Springsteen



IN AMERICA, IT has been a disillusioning few weeks for music fans. Though her "Swifties" are far too loyal to blame her, Taylor Swift helped botch the sale of a 52-night stadium tour by trying to sell more concert tickets in one go than had ever been done before. Bruce Springsteen, acknowledging that he had upset fans by selling tickets at prices as high as $5,000, offered no remorse. "If there's any complaints on the way out, you can have your money back," he gruffly told *Rolling Stone*. Bob Dylan, who sold 900 "hand-signed" copies of his new book for $599 apiece, was forced to admit that he used a writing machine for the signature instead.

Mr Dylan has long lavished disdain on his devotees. But few have a better reputation with fans than T.S. and the Boss. Reading reactions to the dynamic-pricing system used by Mr Springsteen for his next tour is like a reprise of the great rock'n'roll swindle. "Bruce has replaced the scalper," laments Lori S., a fan since the 1970s, on Backstreets, the website for Springsteen aficionados.

Ms S. is unusual. Most frustrated concertgoers direct their ire not at the stars but at Ticketmaster, America's dominant ticketing system, and the promotional colossus it merged with 12 years ago, Live Nation Entertainment. In October, weeks before Ticketmaster's systems crashed while millions of Ms Swift's fans were buying tickets, consumer groups had launched a campaign called "Break Up Ticketmaster", accusing it and Live Nation of operating a monopoly to "rip off" music fans. Reportedly, the Department of Justice (DOJ) is revisiting the merger, first cleared in 2010, on antitrust grounds. Live Nation denies that it is anticompetitive.

Amid the genuine angst over high-priced tickets, and the overhyped politicisation of the matter (Representative Bill Pascrell, a New Jersey Democrat, promotes the "BOSS Act" against ticket-price gouging, named before Mr Springsteen started to behave like any other fat cat), the brouhaha misses two points. The first is that it is mostly the artists, not Ticketmaster, who set the cost of the tickets. They also give the green light to the use of dynamic prices, like those used for airline seats, that allows Ticketmaster to charge more when demand outstrips supply. The second is that a big part of the price inflation comes from secondary resellers (ie, scalpers or touts) who use bots and other means to acquire batches of tickets. As a Brit, your columnist considers these strange oversights.

In his home country, Ticketmaster and Live Nation have big market shares, as they do in America, but it is resellers that attract the most flak. In this transatlantic divide lie some interesting lessons about the "gigenomics" of live entertainment.

To begin with, look at the contrasting antitrust targets. In America, the DOJ is almost exclusively focused on Live Nation and Ticketmaster. Since the merger in 2010, the concert giant has operated under a "consent decree" forbidding it from strong-arming venues to use Ticketmaster. In 2020 that was extended to 2025 after the DOJ accused it of violations. But its critics want a bigger crackdown, accusing the conglomerate not just of bullying venues but of using its dominance to drive prices higher. They want the Biden administration's reinvigorated trustbusters to break it up, rather than merely impose measures to promote good behaviour.

In contrast, Britain's competition authorities waved through the Live Nation-Ticketmaster merger without conditions 12 years ago but have been notably warier when it comes to resellers. To approve the $4bn acquisition by Viagogo, a giant reseller, of StubHub, an American rival, they demanded that the combined entity shed StubHub's non-American business because of their huge market share in Britain. Ticketmaster mostly gets better press in Britain than the touts. During a parliamentary inquiry in 2019 FanFair Alliance, a concertgoer lobby group, praised it for shutting down its secondary resale sites. Its promotion of paperless ticketing and actions to verify a buyer's identity were also welcomed.

That points to a second difference, concerning the nature of tickets themselves. In America, critics of Ticketmaster argue that a ticket confers ownership, meaning it should be possible to buy and sell it as freely as a second-hand car. They note that people purchase tickets months before a concert and should be able to resell them to whom and at whatever price they want. They dislike things that impede that, such as paperless tickets.

Those on the other side of that argument treat tickets more like a licence to visit an event, and view limits on transferability as a healthy way to impede touts. Pearl Jam, a Seattle rock band that 28 years ago butted heads with Ticketmaster over antitrust concerns, now treats the ticketing site as an ally, using its non-transferable, mobile-only ticketing services to ensure it keeps prices low and scalpers at bay. It has also opposed Mr Pascrell's BOSS Act, whose provisions include a ban on non-transferable ticketing. This, the grunge rockers say, would mostly benefit secondary sellers.

Pearl Jam is a rare American band that has sought to rein in ticket prices (a few British stars, such as Ed Sheeran, try to do the same). Most are much less altruistic, for reasons that are easy to understand. Until the covid-19 pandemic stopped live events, bands had for years been making more money from touring than from recording. Now that tours are back on, they have lost income to recuperate. After the pandemic, concertgoers appear particularly keen to splash out on shows, the bigger the better. And the competition between megastars to stage the most Instagrammable event is so intense that they invest fortunes to produce a spectacle.

Only the strong survive

In other words, for all their folksy or countercultural veneer, superstars tend to be capitalists. Like Live Nation, they have an incentive to be as big as possible and to earn the highest rewards. As the ones sweating on stage, they have every right to charge whatever they like—though they need to balance that against the risk of alienating some fans. Live Nation can be as greedy as it likes, too. But it has to be prepared to sweat in the political heat. ■



Energy sanctions

Crude weapon

NEW YORK

The largest embargo ever imposed on a petrostate is about to be enforced. Is the global oil market ready for it yet?

Ever since Russia invaded Ukraine in February, America's energy policy has pursued two grand, seemingly contradictory aims. The first is to keep global oil supply high enough that prices remain tolerable and public support for sanctions stays strong. The second is to asphyxiate Vladimir Putin's war machine by stemming the flow of dollars Russia earns by flogging oil barrels. Together they form a circle that is hard to square because, with supply closely tracking demand amid a dearth of new production, taking any oil off the market mechanically triggers higher prices. The West has nevertheless tried to defy the law of physics by crafting a growing array of measures to meddle in oil markets.

The ones that have been deployed until now have often been piecemeal and involve uncomfortable compromises. Puncturing its own sanctions against Venezuela's thuggish regime, on November 26th America granted permission for Chevron, a big American oil firm, to crank up its production there. America has also released huge volumes from its strategic crude-oil stocks; the reserve is now at its lowest level since 1984. The White House's least productive effort has aimed to cajole Gulf states into pumping more. Within months of President Joe Biden fist-bumping Muhammad Bin Salman, the de facto Saudi ruler, in Riyadh in July, the petrostate and its allies in the Organisation of the Petroleum Exporting Countries (OPEC) declared they would cut output instead. On December 4th the cartel meets again. It looks unlikely to help by increasing output now.

Yet the West's most carefully constructed campaign to outsmart Mr Putin has yet to come into action. In June the EU announced that, come December 5th, it would ban imports of Russian seaborne crude oil, which accounted for 2m barrels per day (b/d), or about 40% of Russia's total crude exports, a year ago. Then it said it would also bar European providers of maritime services, tankers and insurance from helping non-EU buyers get hold of the Russian barrels it shuns—a powerful tool, given those firms dominate the global shipping market. It soon dawned on America that, together, those two measures had the potential to squeeze global oil supply. And so it insisted on introducing a weakening clause: provided they agree to pay a maximum price, set by the G7, for Russia's oil, non-Western buyers could continue to buy European insurance.

As we went to press the level of this "price cap" was still being debated among Europeans. Some, led by Poland and the Baltic states, want the cap to be low so as to hurt Russia's finances. Others, worried about their shipping industries or retaliation from Russia, want to keep it close to market levels. Rumours filtering out from the talks suggest it may end up near $60 a barrel—a discount of nearly 30% to the current price of Brent, the global benchmark, of $85 a barrel—which is about what Russia sells its oil for these days anyway. Whatever the outcome one thing is certain. Never before has such a fiddly set of measures hit the global oil market at once. Many of these have been signalled for so long that they may cause few problems. But there are reasons to think the boat could be rocked, at least for a while. ▸▸

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In an optimistic scenario the package of sanctions could manage to reconcile the West's two contradictory aims. The embargo would ensure Europe no longer fuels Mr Putin's war: last month the bloc still bought 2.4m b/d of crude and refined oil from Russia. Meanwhile the price cap, says an American Treasury official, would act as a "release valve", keeping the global market in balance by letting developing countries buy Russian oil at a discount. Russia would receive less money whether or not those countries sign up to the plan, because the mere existence of a cap, or so America reckons, would boost their bargaining power.

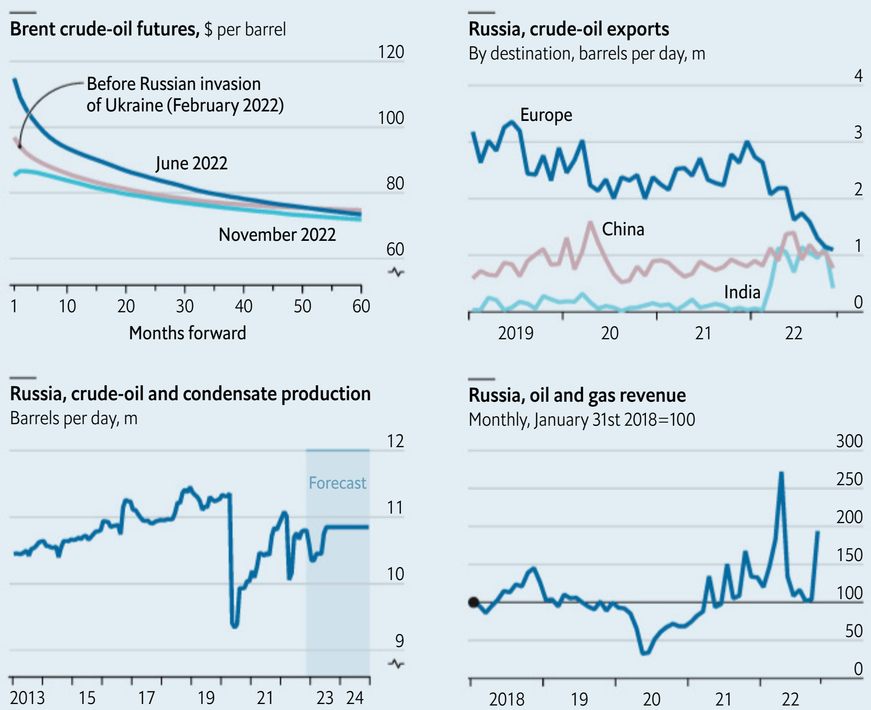
In the absence of a low enough price cap, as is likely to be the case, the cost to Russia would be real but modest. It would add yet more inconvenience to that created by the West's broader arsenal of sanctions, which may impair Russia's economy in the long run but have hardly proved terminal so far. The discounts borne by Russian grades over regional benchmarks have widened in recent weeks but remain well below those seen in the aftermath of the invasion. At least the embargo would not roil crude markets—or so commodities markets suggest. Brent futures, which in June indicated a year-ahead oil price approaching $100 a barrel, now place it closer to $85 (see chart panel). Most traders expect an acceleration of the shift in fuel flows seen so far this year, with India and China taking over from Europe as Russia's biggest customers.

This happy story assumes no logistical hiccups will prevent decades-old trading patterns from undergoing a smooth but rapid transition. A less rosy scenario, however, could see sanctions throw spanners in the spigots by introducing unwanted friction. Three bottlenecks stand out: a crunch in tankers, an insurance gap and a global shortage in risk appetite.

Start with the tankers. Cyprus, Greece and Malta loom so large in shipping that Europe's ban on the provision of maritime services to countries that do not sign up to the cap—and many of them, loth to endorse American interference in commodity markets, have signalled they won't—could create a big shortage of ships capable of carrying Russian crude. Claudio Galimberti of Rystad Energy, a data firm, anticipates a shortfall of some 70 vessels, with an aggregate carrying capacity of 750,000 b/d, lasting two to three months.

Eventually this problem should work itself out. Industry insiders point to an ever growing "dark fleet" that is absorbing vessels from established sanction-busters in Iran and Venezuela. Russian firms are bringing mothballed vessels back into service; EU shipowners are also transferring assets to operators outside the G7. A top energy trader reckons that, by February, there will be enough ships to transport Russian crude, though vessels to redirect refined products such as diesel from short-haul routes in Europe to distant new customers may stay scarce for some time.

Flow and behold



Sources: Bloomberg; JP Morgan Commodities Research; Platts; Petrologistics; Rystad Energy

The crunch in insurance coverage is a bigger potential snag. It is not that Middle-Eastern or Asian countries keen on Russian barrels do not have local firms with the financial muscle to insure tankers and cargo. What they may soon lack is cover for much bigger risks like oil spills, liabilities for which can easily reach half a billion dollars. Few insurers new to the market will look forward to becoming liable for an ageing Venezuelan vessel going through Danish straits a mere 15m deep, says a veteran oil trader, without a big backstop.

The problem is that this sort of backstop—reinsurance—demands deep pools of private capital hard to find outside the West. Perhaps the Chinese and Indian governments could be persuaded to offer sovereign reinsurance, though market insiders doubt they have the stomach. In fact some traders reckon Asian buyers could buy less Russian oil rather than more as the insurance ban comes into force.

The third bottleneck could be a lack of appetite outside the G7 for the perceived risks of circumventing a scheme designed by the West. Many do not believe American promises to remain hands-off if countries choose to go around the cap. It does not help that, in its most recent sanction campaigns, such as those targeted at Iran, America has studiously kept the perimeter and degree of enforcement of penalties vague so as to deter anyone from dealing with its foes. The practice, known in sanctions parlance as "constructive ambiguity", is hard to roll back.

All this could cause a chunk of Russian oil exports to fall off the map, prompting prices to jump. But a much worse scenario, where Russia voluntarily slashes its oil exports and prices get out of control, is also possible. It may happen if China, having to forsake its purchases from other countries to buy yet more Russian oil, tries to drive too hard a bargain. More likely it would be a unilateral decision by Mr Putin. It could incur huge costs: Russia derives 40% of its export revenues from oil sales. But that might be worth bearing temporarily if it drives global prices up, hurting the West and giving Russia more leverage in negotiations with buyers, without inflicting intolerable damage to wells. The country's decision to shut temporarily nearly 2m b/d of crude production during the pandemic resulted in only a 300,000 b/d loss in long-term capacity, according to Energy Intelligence, an industry publisher.

Up to now the G7's energy policy has been hashed out in painstaking detail in Washington, DC, and Brussels. But, to paraphrase Mike Tyson, everyone has a great plan until they get punched in the face—and, facing serious setbacks on the battlefield, Mr Putin is pulling no punches right now. The price-cap's first contact with reality could be rough. ■



Green investing

Uncle Sham

Dubious green funds are rampant in America

IT IS NOT easy being green. In November Amundi, Europe's largest investment manager, downgraded most of its €45bn ($47bn) of funds ranked Article 9, the highest grade in the EU's sustainability disclosures, to Article 8, or "light green". New regulations are forcing many others to recast their wares in less virtuous colours. Nearly one-tenth of all Article 9 funds have left the category since the European Commission tightened its criteria, in July.

That has exposed European fund managers to accusations of greenwashing, and for some the label is deserved. But new research published this week in the *Review of Finance*, an academic journal, suggests American firms are doing worse. When it comes to sustainable investing, Wall Street stalwarts appear to run a fully fledged laundromat of exaggerated sales pitches and bogus claims.

To gauge this the authors examined funds that have signed up to the UN-sponsored Principles for Responsible Investment (PRI), a scheme that investment managers can sign up to certify they take account of environmental, social and governance (ESG) principles when making investment decisions. On the face of it, that is a promisingly large sample: 2,000 investors, overseeing $135trn of assets, now say they will obey the PRI. The problem is that such pledges can mean little. Looking at the period from 2003 to 2017, researchers found no sign that the portfolios of PRI signatories in America had higher ESG scores, across a range of metrics, than non-signatories. Their peers across the pond scored much higher. "There could be a couple of bad apples in Europe. But it's not the entire cart that's rotten," points out Alex Edmans, a finance professor at London Business School and the editor of the study.

American fund managers might argue, in their defence, that they are trying to help dirty companies get greener rather than simply dumping their shares as European funds might do, and are being penalised for this. But the researchers find little evidence of that. Instead they report that American PRI signatories were less likely to engage, as shareholders, with the companies they owned than their European counterparts. Three years after the initial investment, ESG scores at those investee firms were found to be no better. Higher grades may not be the answer anyway. ESG ratings are themselves often flaky and may be a poor proxy for emissions.

The transatlantic divide, the paper suggests, may stem from a divergence in regulation. Europe's rules are tedious and sometimes misguided. But at least they provide detailed guidance on what counts as sustainable and how green mandates should fit with fund managers' fiduciary duties. By contrast American firms seem to be defining their own rules; some simply sign up to the PRI in the sole hope of attracting green-conscious investors, with little to show for their claims.

Sometimes greenery is even used to keep assets under management growing even as managers post sub-par returns. The authors find that poorly performing American funds are more likely to join the PRI than higher-flying peers. ■

Dirty money

Laundry softener

AMSTERDAM

The EU's top court strikes down a tool against corruption

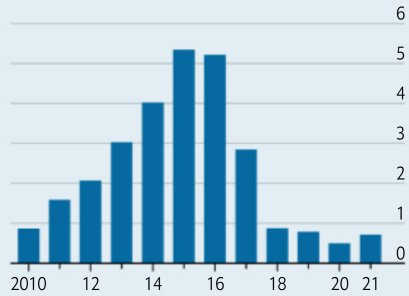
DESPITE THE armies of bankers and bureaucrats vowing to stop international money-laundering, there is still gobs of it going on. Money-laundering cases at Eurojust, the EU's justice agency, have doubled in the past six years. One reason is that tracking dirty money is very hard. Criminals and kleptocrats create webs of shell companies with bogus owners and officers, seeking out countries with lax rules.

A good tool to fight this are ultimate-beneficial ownership (UBO) registries, where corporations must declare which human beings control them and receive their profits. The EU has required UBO registers since 2018, and America since 2020. The best, such as Britain's, created in 2016, can be accessed by anyone. The EU later made that a requirement too.

Shedding the shells

Scottish limited partnership, new registrations

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Sources: Bellingcat; Companies House

But on November 22nd the European Court of Justice (ECJ) decided this went too far. In a case brought by an anonymous plaintiff in Luxembourg, it ruled that open-access UBOs violate owners' right to privacy and struck down an EU directive that opened them to the public. European countries with open registries quickly suspended access. Civil-society groups were blindsided. Big international investigations such as the Pandora Papers depend heavily on public registers, says Pavla Holcova of Investigace, a group that mapped the network of firms controlled by Andrej Babis, a former Czech prime minister.

The court's decision does not strike down the registries, but it forces governments to change the rules so that only parties with a "legitimate interest" can ask for information. If researchers have to justify each request, they may be unable to uncover connections. "We're typically looking at thousands of companies at the same time," says Ross Higgins of Bellingcat, an open-source investigative group. Tracking down Russian officials' illicit villas in Europe would become "close to impossible", says Maria Pevchikh of the Anti-Corruption Fund, a group set up by Alexei Navalny, a Russian opposition leader.

Open access itself can deter dodgy dealings. Mr Higgins's research on Scottish limited partnerships, a form of corporation, showed that many were used to hide dirty money, such as $1bn stolen from Moldovan banks in 2014. After a law passed in 2016 forced them to disclose their UBOs, new partnerships dried up (see chart).

Money-laundering is not the only issue. UBO registries are a crucial tool in enforcing international sanctions against Russia and others. "The implementation of sanctions is completely outsourced to the private sector," says Adam Smith, a former American sanctions official. Firms that transact with blacklisted entities, even un- ▸▸

Correction In "Hot like Minnesota" (November 26th) we called Rochester one of Minnesota's two biggest cities. In fact it is a distant third. Sorry.

knowingly, risk huge fines. With ownership now obscured they may simply avoid anyone remotely linked to sensitive areas.

Tax evasion, too, could become harder to combat. Firms created to funnel profits to low-tax jurisdictions may continue to fly under the radar. The ruling privileges sophisticated international businesses over local ones that cannot hide their ownership, notes Andres Knobel of the Tax Justice Network, a lobby group: "If you look at who is happy, it's mostly trusts and people working for high-net-worth individuals."

The European Commission and EU finance ministers are studying the ECJ decision and working on new rules. Any new system will probably let banks use UBO registries, and the court says governments should consider granting access to journalists and civil-society organisations. But the decision deals a blow to global efforts to root out dirty money, says Oliver Bullough, a journalist who writes on money-laundering. "In the game of Jenga, they pulled out a really important block." ■

Central-bank reserves

Vault face

Why central banks are dumping dollars for gold

In 1968 the London Bullion Market closed for two weeks. The world's largest precious-metal market had run out of gold, drained by a five-month run on America's stash by European central banks. The crisis marked the beginning of the end for the Bretton Woods standard that had kept the dollar pegged to gold, and currencies elsewhere to the dollar, since 1944.

Now central banks are furiously buying gold again (see chart). In the third quarter alone 400 tonnes moved into their reserves. That has pushed the total from January to September to 670 tonnes, a pace unseen since the Bullion Market debacle. In May Turkey snapped up almost 20 tonnes in one go. India and Qatar are also ravenous. The metal now makes up two-thirds of Uzbekistan's reserves, months after it planned to reduce gold to under half. Kazakhstan is also doubling down.

Bullion boom

Worldwide, central banks' quarterly gold purchases, tonnes



Sources: Metals Focus; Refinitiv GFMS; World Gold Council

In part this is because gold, snubbed in good times because it generates no yield, recovers its shine in times of volatility and high inflation. In the long run, it is seen as a store of value and, not tied to any individual economy, seems immune to local political and financial turmoil. Central bankers may also think they are getting a bargain. Even though it has resisted better than most, the price of the metal has dropped 3% this year. Gold bugs expect a rebound.

Like in the past, however, buying gold bars is also a way to ditch some dollars. Except this time it is not Europe but emerging markets who grumble about the greenback. They need dollars to pay for imports and external debts. But their reserves are mostly made of treasuries, not actual banknotes. And as the Federal Reserve has raised interest rates, buoying yields, the value of government paper has dropped. Lesser central banks have taken this as a cue to swap them for precious metal rather than bet on the Fed taming inflation.

Shadier motives are also at play. Gold provides a way to circumvent Western sanctions on Russia, much of whose reserves have been frozen since March and whose banks have mostly been disconnected from the dollar-based international-payments system. Almost no central banks keep roubles as foreign-currency reserves. For those countries that traditionally do a fair bit of business with the Kremlin—from Turkey to Turkmenistan—gold offers an alternative, if clunky, means of exchange. This motley group of emerging markets have been among the biggest buyers of gold this time around.

This is not something the West can do much about. Russian gold is banned on the London market, but no one can get at its gold reserves, which are mostly sourced from its own mines. And Russia's central bank no longer reports how much gold it holds, making swaps impossible to track. Moving the physical metal is a logistical headache, but it keeps transactions under the West's digital radar, which is useful for those playing both sides—like Qatar or Turkey. The World Gold Council, a trade body, says unknown buyers account for a big chunk of this year's bonanza.

One consolation for the dollar is that no other currency is gaining ground. The portion of foreign reserves held in yuan globally has stalled this year. The euro, yen and pound are treading water too. Central banks may have gold fever but there is no regime change on the horizon. ■

Global taxation

Fiscal feud

Developing countries take tax talks to the UN

Who makes the rules about international tax? For 60 years the answer has mostly been the Organisation for Economic Co-operation and Development (OECD), a club of rich countries. The rest of the world thinks that is unfair. Developing countries have long argued for a leading role for the UN, where they hope to have more of a say.

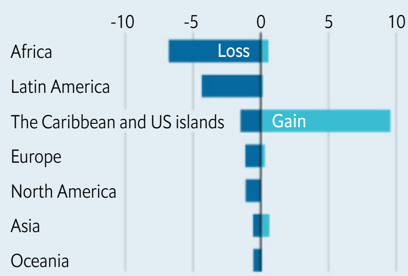
That idea came a step closer on November 23rd, when UN members resolved to begin talks on international tax co-operation. The decision makes no difference to a landmark OECD-led tax deal signed by 137 countries and jurisdictions last year. But it does expose the limitations of the so-called "Inclusive Framework" through which that plan is being implemented. Although non-OECD negotiators are becoming more assertive, winning some concessions, they make up less than a quarter of attendees at working-party meetings. Only half of African countries are participating in the talks. African tax officials complain of being presented with documents in the evening for comment the next morning.

Ironically, the resulting deal claims to address a longstanding demand of developing countries: that firms pay more tax in the places where they do business, regardless of where they are resident. For decades governments have complained that multinationals make sales in their countries but pay little tax in return (see chart).

But developing countries argue that old biases are baked in. The deal reallocates taxing rights on a fraction of profits from about a hundred giant firms. And it sets a minimum corporate tax rate at 15%, far below the effective rate of 25-30% that is

Fiscal funnel

Tax-revenue change as a result of profit shifting by multinational corporations, % of total tax revenue



Source: "Profit shifting of multinational corporations worldwide", by J. Garcia-Bernardo and P. Jansky, IES Working Papers, 2021

common in Africa, Asia and Latin America.

Signatories are also expected to renounce digital-service taxes of their own. The finance minister of Nigeria, which collects such a levy, has said that the overall package could leave her country worse off. Africa's largest economy is one of four which joined talks but refused to sign the deal. Others might drag their feet when asked to put the plan into action, says Martin Hearson of the International Centre for Tax and Development, a research group.

Initial estimates from the OECD, before the plan was finalised, suggested that it would boost corporate-tax revenues by about 3-4% in poor countries—a similar proportion as in rich countries, but only around 0.1% of their GDP. Some governments would have liked to have gained more or given up less, acknowledges Grace Perez-Navarro, the OECD's tax director. But she argues "everybody needs to come to the table to compromise" and developing countries "have an equal seat".

Many of them beg to differ. "The flaws in the deal indicate that after ten years of trying at the OECD, it is time to give space to the UN," says Irene Ovonji-Odida, a Ugandan lawyer who has sat on panels investigating illicit financial flows. The fraught history of climate talks, which are held under UN auspices, suggests it can give developing countries a voice but cannot eradicate power imbalances.

The push for tax talks at the UN is going nowhere fast. As the resolution passed, delegates speaking for America and the EU warned that it would "undermine" the progress made by the OECD. But for developing countries it was a historic moment: a staging post in the struggle to determine who gets taxed, by whom. ■

Buttonwood PE-kaboo



How long can private funds keep hiding plunging asset values?

Babies lacking object permanence—the understanding that things they cannot see continue to exist—love the game of peekaboo. An adult hides their face from sight, then suddenly comes back into view, prompting squeals of delight. Grown-ups no longer enjoy being deceived—unless they invest in private equity and venture capital, where hiding bad news is part of the fun.

A huge gap between the valuations of publicly listed companies and their unlisted peers' has opened in 2022. Lincoln International, a bank, reckons the enterprise value of firms held by private-equity funds globally rose 1.9% in the third quarter, leaving them up 3.2% for the year to date. The S&P 500, by contrast, fell 22.3% in the same period.

That is a relief to many institutional investors, such as pension funds, who cannot afford big losses. In the past decade they have splurged trillions of dollars on private assets. Soon these could also be found in greater volumes in 401k plans, America's employer-sponsored retirement schemes. When interest rates were low, fans of buy-outs and venture capital were drawn to their high reported returns. Now that market chaos reigns, their lower volatility is the bigger selling point.

The gulf in valuations cannot be justified on economic grounds. All firms face the same toxic cocktail of slowing growth, rising interest rates and stubborn inflation. If anything, private ones, often more leveraged, should be more exposed when credit tightens. Instead the gap is mostly an illusion rooted in the peculiarities of private investing. One is well known. While public markets are constantly repriced in full view of the world's investors, shares in private firms are traded far more rarely and opaquely. Some founders would rather sink with their ship than agree to a cut in valuation.

Less appreciated is the array of tricks private funds use to smooth out returns. Many keep their valuation-work in house: a 2015 survey by Grant Thornton, a consultancy, found that only around a quarter of them sought an independent opinion on the growth and discount rates they use in their models. That gives managers the discretion to make assumptions that flatter the prospects of the firms they own. Many have also taken to borrowing money to do deals instead of calling for investors' capital straight away. This has the effect of artificially boosting a fund's internal rate of return, a key performance benchmark.

Cliff Asness of AQR Capital Management, an investment firm, once dubbed such obfuscation tactics "volatility laundering". Today they are paying off. Smoothing returns can limit the upside of private equity during the most frenetic stages of a roaring market, but it keeps returns afloat when the economy faces a storm. Private funds are still reporting gains that were made during the steroid-fed bull run of 2020 and 2021.



Massaging techniques can be used to nefarious ends. The collapse of Abraaj Group, a Dubai-based private-equity firm, was partly caused by inflated valuations intended to mask poor performance. But more often return-smoothing provides the funds' knowing clients exactly what they want. Research by academics at the University of Florida published in October shows private-property fund managers fiddle returns more when they manage a greater share of their investors' total assets—that is, when their manipulations matter more to the end clients' overall performance.

How long can the illusion last? During the bursting of the dotcom bubble in 2000, it took American venture-capital managers nearly half a year to report impairments after public markets peaked. American buy-out funds held off even longer after listed equities crashed in 2007. In fact public markets began recovering in 2009—quickly enough that private investors never had to mark down the full extent of the slump.

It is unlikely private firms will be able to levitate long enough this time. Over a year has passed since the peak of the NASDAQ Composite, a tech-heavy index. The cash holdings of some private firms are eroding, leaving little for return-smoothing financial engineers to play with. In August Masayoshi Son, the boss of Softbank Group, a Japanese investment giant, predicted private valuations would rejoin public-market ones within 12 to 18 months. Without a 2009-style recovery in public equities in sight, an unavoidable downgrade looms. No doubt many investors would prefer to continue playing along with the peekaboo charade. But soon private-fund managers will have nowhere to hide.

Free exchange | I'll do things for you

A playbook from the 1980s for dealing with inflation



Across the rich world consumer prices are rising by 10% year on year, the highest rate since 1983. That year holds a special place in the history books. It was the final year, after many, in which annual inflation was in double figures. Thereafter it moved downwards, paving the way for the low inflation of the 1990s.

Today's central bankers hope to repeat the trick and thus enter monetary policy's hall of fame alongside the giants of the 1980s. Paul Volcker, who led the Federal Reserve from 1979-87, is the biggest giant of all. But Gerald Bouey in Canada, Carlo Azeglio Ciampi in Italy and Karl Otto Pöhl in Germany—who memorably compared inflation to toothpaste ("once it's out, you can hardly get it back in again")—also presided over disinflation in that decade.

Central bankers hope their job will not be too hard. The Fed's projections suggest that by 2024 inflation will be close to target, at the price of just a small rise in unemployment. The current period of high inflation is relatively short, so the hope is that expectations of price pressure are not entrenched. Others say that price rises are in large part driven by supply-side disruptions, which should soon fade. Yet over time, the inflationary surge appears to be broadening almost everywhere. In many places expectations are starting to look stubbornly high.

So the experience of the 1980s may become instructive. And once you dig into the history, the decade holds three tough lessons for today's policymakers. First, inflation can take a long time to come down. Second, defeating inflation requires the participation not just of central bankers, but other policymakers too. And third, it will come with huge trade-offs. The question is whether today's policymakers can navigate these challenges.

Take the path of disinflation first. In the 1980s it was a slog. Italy saw success faster than most. Under Ciampi the central bank moved from the treasury's plaything to a quasi-independent institution: inflation fell from 22% in 1980 to 4% by 1986. But that still meant five long years where prices rose by more than 10%. Even if the rich world today reduces inflation as fast as Italy did, its average inflation rate would not come down to 2% before late 2025.

In any case most countries had more trouble than Italy. In 1980-81 rich-world inflation fell, but progress came to a halt in 1982-83. Then in 1987-88 there was another inflationary spike, fuelled by energy costs. In some countries inflation jumped around. In early 1984, with inflation at 3.5%, New Zealand's wonks thought they had slain the monster. By mid-1985, however, it exceeded 16%. We estimate that in only 53% of months in the 1980s did inflation in the average rich country decline relative to the previous month. Disinflation was happening, but often it did not feel that way.

The second lesson of the 1980s is that central bankers can only do so much. "Inflation was not conquered in the 1980s by monetary policy alone," argues John Cochrane of Stanford University in a new paper. Some say that the liberalising reforms of the 1980s helped in the fight, increasing competition and thereby lowering prices. IMF research has found that labour- and product-market reforms can, under certain conditions, reduce prices. These reforms, though, probably took some time to kick in.

Economists can make a stronger case for the role of fiscal policy in the anti-inflation fight. In the 1980s policymakers across the world recognised, as they had failed to do in the 1970s, that loose fiscal policy could add fuel to the inflationary fire. They held back on spending even as households' real incomes declined. Mr Cochrane points out that America's primary budget deficits (ie, excluding interest payments) were "unremarkable, especially given the severe recessions of 1980 and 1981-82".

Governments elsewhere were harder-nosed. Japan reduced its primary deficit from 3.2% of GDP in 1980 to a surplus by 1985. Denmark experienced a tough period of austerity. Even France kept a firm lid on borrowing. A growing number of economists today are urging policymakers to learn these lessons. In a new piece Tobias Adrian and Vitor Gaspar of the IMF argue that "[f]iscal responsibility...demonstrates that policymakers are aligned against inflation." They reckon a given fiscal tightening can reduce core inflation by almost as much as a dose of monetary austerity.

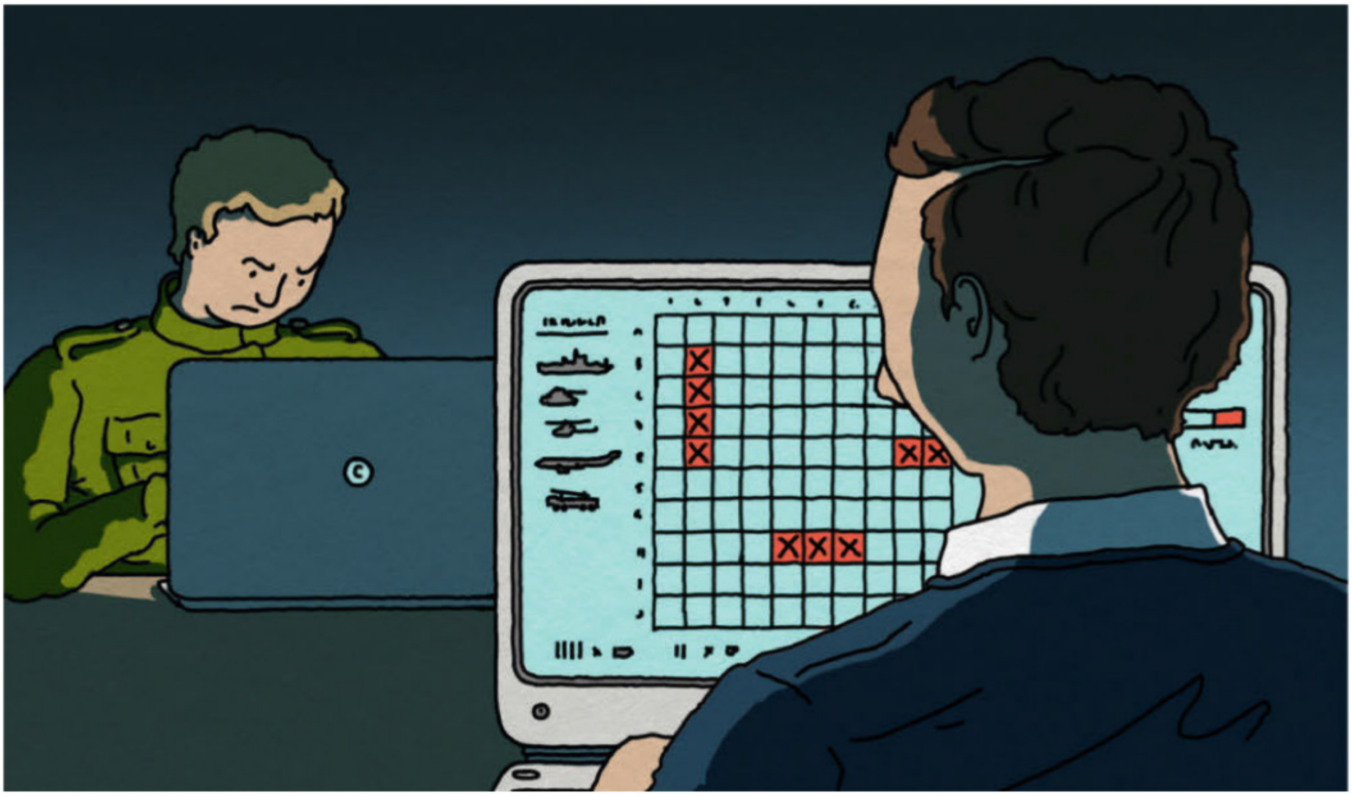
The third lesson of the 1980s is that disinflation is painful. The world economy did not benefit from a "soft landing", where inflation falls without provoking recession. Average unemployment across the rich world doubled in the five years after 1979. Some parts of the economy cratered. Home construction, for instance, fell by a fifth in 1980-82.

Unsurprisingly, therefore, there was anger. A carpenter sent Volcker a plank of wood in the post—a symbol that lumber was unneeded since no one was buying houses. In Canada car-workers shut down highways. Policymakers nonetheless stayed the course, showing the public that they were deadly serious about getting inflation under control.

It was acceptable in the 80s

Do policymakers today have the stomach for the fight? Coming so soon after the fiscally austere 2010s, many are reluctant to tighten the tax-and-spending screws once again. Indeed many politicians have gone the other way, and now seem uncomfortable with the notion that anyone should lose out from anything, ever. They are offering hundreds of billions' dollars-worth of deficit-financed fiscal support that will fuel inflation, whether by subsidising energy bills (in Europe), offering "cost-of-living payments" (in Australia and New Zealand) or forgiving student debt (in America).

Policymakers are thus ignoring the fundamental lesson of the 1980s. Fighting inflation is hard. It requires all hands on deck, and immense courage over a long period of time. It is also, unfortunately, almost inevitable that some groups lose out, if only in the short term. As politicians run scared, the 2020s risk earning a special place in the history books, too—for failing to tame inflation. ■



Cyberwarfare

A nest of wipers

KYIV AND LONDON

Russia's cyberwar on Ukraine has been intense, but not always effective

SHAPING THE battlefield. Darius, king of Persia, did it in 331BC, with caltrops strewn where he thought his enemy Alexander the Great would advance. The Allies did it in 1944, with dummy aircraft and landing craft intended to fool Germany's high command into thinking their invasion of France would be in the Pas de Calais, not Normandy. And Russia attempted it on February 24th, when, less than an hour before its tanks started rolling into Ukraine—on their way, they thought, to Kyiv—its computer hackers brought down the satellite communications system run by Viasat, an American firm, on which its opponents were relying.

Victor Zhora, head of Ukraine's defensive cyber-security agency, said in March that the result was "a really huge loss in communications in the very beginning of war". A Western former security official reckoned it took "a year or two of really, really serious preparation and effort".

Win some, lose some. The Allies won. The D-day landings were successful. Darius lost, and lost his throne. Likewise, Russia's advance on Kyiv was repelled. Its invasion force in that theatre was defeated. Despite the effort expended on trying, Russia could not generate a sufficiently thick fog of war through cyberwarfare. And that is interesting. Though cyberwarfare has been a hard-fought and important part of a conflict that has acted as a testing ground for this still-novel form of battle, it does not seem to have been the killer app, as it were, that some expected.

Bits in pieces

Russia's attack on Viasat was not the only softening-up-by-software it directed at Ukraine in the run-up to the invasion. In January, and again on February 23rd, so-called "wiper" programs, designed to delete data, were spotted on hundreds of Ukrainian systems. Then, in April, as the forces that had threatened Kyiv fled, hackers working for Sandworm (suspected to be a front for GRU, Russia's military-intelligence service), used malware called Industroyer2 to attack the country's electricity grid.

Assaults of this sort on civilian infrastructure are hard to keep quiet. But what is happening to military kit is a different matter. Ukraine's armed forces have maintained tight operational security throughout the war, giving away nothing about how their own networks were penetrated or disrupted (which they were). Even so, the visible effects of Russia's campaign have been surprisingly limited. "I think we were expecting much more significant impacts than what we saw," said Mieke Eoyang, a senior cyber-official at the Pentagon, on November 16th. "Russian cyber-forces as well as their traditional military forces underperformed expectations."

In the first days of the war, Ukraine stayed largely online. The lights remained on, even as fighting raged around the capital. The banks were open. Unlike 2015 and 2016, when cyber-attacks caused blackouts, electricity continued to flow. So did information. There was never a serious threat to Volodymyr Zelensky's nightly presidential broadcasts to the Ukrainian people. If Russia's aim was to undermine Ukrainians' trust in their government and render the country ungovernable, it failed.

The most important reason for that was ▸▸

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Ukraine's defence. Lindy Cameron, head of Britain's National Cyber Security Centre (NCSC) reckons Russia's onslaught was "probably the most sustained and intensive cyber-campaign on record". But as Sir Jeremy Fleming, her boss at GCHQ, Britain's signals-intelligence agency (of which the NCSC is part) observed in an essay for *The Economist* in August, Ukraine's response was "arguably...the most effective defensive cyber-activity in history". Ukraine had been a test bed for Russian cyber-operations for years. Industroyer2's predecessor, Industroyer, for example, was the cause of the blackouts in 2016. That gave the government insight into Russian operations, and time to harden its infrastructure.

This meant that when the invasion began, Ukraine's cyber-command had a contingency plan ready. Some officials dispersed from Kyiv to safer parts of the country. Others moved to command posts near the front lines. Crucial services were transferred to data centres elsewhere in Europe, beyond the reach of Russian missiles. Ukraine's armed forces, aware that satellites might be disrupted, had prepared alternative means of communication. The attack on Viasat ultimately "had no tactical impact on Ukrainian military comms and operations", insisted Mr Zhora in September, qualifying his earlier statement.

What friends are for

Western assistance was also crucial. In the prelude to war, one way NATO enhanced its co-operation with Ukraine was by granting access to its cyberthreat library, a repository of known malware. Britain provided £6m ($7.3m) of support, including firewalls to block attacks and forensic capabilities to analyse intrusions. The co-operation was mutual. "It is likely that the Ukrainians taught the US and the UK more about Russian cyber-tactics than they learned from them," notes Marcus Willett, a former head of cyber issues for GCHQ.

Ukrainian resilience was helped, paradoxically, by the primitive nature of many of its industrial-control systems—inherited from Soviet days and not yet upgraded. When, for example, Industroyer hit electrical substations in Kyiv in 2016, engineers were able to reset systems with manual overrides within a few hours. When Industroyer2 took part of the grid offline in April, it came back on again in four hours.

Private cyber-security companies have also played a prominent role. Mr Zhora singles out Microsoft and ESET, a Slovakian firm, as being particularly important for their large presence on Ukrainian networks and the "telemetry", or network data, that they collect as a result. ESET provided the intelligence which helped Ukrainian cyber-teams parry Industroyer2. Microsoft says that artificial intelligence, which can scan through code more quickly than a human being, has made it easier to detect attacks. On November 3rd Brad Smith, Microsoft's president, announced that his firm would extend tech support to Ukraine until the end of 2023 free of charge. The pledge brought the value of Microsoft's support to Ukraine since February to more than $400m.

There is no doubt that Ukraine was a hard target. But there are those who wonder whether Russia's cyber-prowess might have been overrated. Russian spies have decades of experience with cyber-espionage, but the country's military cyber-forces are "very young" compared with Western rivals, notes Gavin Wilde, a former director of Russia policy on America's national security council. America began integrating cyber-plans into military operations during wars in Haiti and Kosovo in the 1990s. Russia has thought about it for only around six years, says Mr Wilde.

American, European and Ukrainian officials all say that there are many examples of Russian cyber-attacks synchronised with physical attacks, suggesting a degree of co-ordination between the two branches. But there have also been clumsy errors. Sir Jeremy says that, in some cases, Russian military strikes took down the same networks that Russian cyber-forces were attempting to infect—ironically forcing the Ukrainians to revert to more secure means of communication.

Others paint Russia as a sloppy cyberpower—good at breaking things, but loud and imprecise. In April David Cattler, NATO's top intelligence official, observed that Russia had used more destructive malware against Ukraine "than the rest of the world's cyber-powers combined typically use in a given year". But judging a cyber-campaign by the volume of malware is like rating infantry by the number of bullets fired. Daniel Moore, author of "Offensive Cyber Operations", a recent book on the subject, says that every single one of



Russia's known attacks on critical infrastructure, in Ukraine and beyond, has been prematurely exposed, been riddled with errors or has spilled over beyond the intended target—as was the case with NotPetya, a self-spreading ransomware attack of 2017, which escaped from Ukraine to cause $10bn of damage around the world.

"There were significant operational failings in almost every single attack that they have ever carried out in cyberspace," says Mr Moore. In contrast, he points to Stuxnet, an Israeli-American cyber-attack on an Iranian nuclear facility, first identified 12 years ago—technologically, ancient history. "That was far more complex than a lot of what we see from Russia today."

The physical and the virtual

Some Western spies thus say the war shows a gulf between American and Russian proficiency in high-end cyber-operations against military hardware. But others warn that it is too early to draw sweeping conclusions. Russia's cyber-campaign may have been constrained less by incapacity than by the hubris that also afflicted its conventional armed forces.

Western officials say that Russia failed to plan and launch highly destructive cyber-attacks on power, energy and transport not because it was unable to do so, but because it assumed it would soon occupy Ukraine and inherit that infrastructure. Why destroy what you will soon need? When the war dragged on instead, it had to adapt. But cyber-weapons are not like physical ones that can simply be wheeled around to point at another target and replenished with ammunition. Rather, they have to be tailored specifically to particular targets.

Sophisticated attacks, like that on Viasat, require huge preparation, including painstaking reconnaissance of target networks. In a paper published last year, Lennart Maschmeyer of ETH Zurich showed that GRU's attack on Ukraine's power grid in 2015 had taken 19 months of planning, while that in 2016 had required two and a half years. Launching such attacks also reveals to an enemy the tools (ie, code) and infrastructure (servers) being used, resulting in attrition of their effectiveness.

After the war's first week, therefore, as Viasat-like set pieces were used up, Russian cyber-attacks grew more tactical and opportunistic. Then, in April, as Russia turned from Kyiv to the Donbas, the volume of wiper attacks dropped precipitously. In November, researchers at Mandiant, a cyber-security firm owned by Alphabet, described how GRU was now attacking "edge" devices such as routers, firewalls and email servers to speed up attacks, even at the expense of stealthiness.

"What you're seeing here is a production frontier," says John Wolfram of Mandiant, referring to a graph in economic the-

ory which shows the various combinations of two goods that can be produced with given resources. "You have a certain amount of expertise and capital, and you have to decide whether you spend it on one or two exquisite special operations—or 50 at lower cost." Choosing the latter does not mean the former are beyond your capacity. "Russia is almost certainly capable of cyber-attacks of greater scale and consequence than events in Ukraine would have one believe," notes Mr Cattler. The war "has not yet involved both sides using top-end offensive cyber-capabilities against each other", agrees Mr Willett.

If all this is true, those capabilities might yet be unleashed. The sabotage of the Nord Stream 1 and 2 pipelines in September, and missile attacks on Ukraine's power grid, suggest that the Kremlin's appetite for risk is growing. There are signs of this in the cyber-domain, too. One British official says that Russia, mindful of the NotPetya incident, was keen at first to confine its attacks to Ukraine, to avoid picking a fight with NATO. But that may be changing. In late September Sandworm launched the first intentional attack on targets in a NATO-country, with "Prestige", a disruptive piece of malware that was directed at transport and logistics in Poland, a hub for arms supplies to Ukraine.

There are also those who believe the power of cyberwarfare has been misunderstood. Cyber-operations have been "intense and important", acknowledges Ciaran Martin, Ms Cameron's predecessor at the NCSC. But the war has illustrated "the severe limitations of cyber as a wartime capability", he says. Stuxnet, which infected Iranian systems that were "air gapped" (that is, physically disconnected from the internet), mechanically damaged machinery, yet remained undetected for months. Its success gave rise to a distorted view of cyber-attacks as wonder weapons, capable of substituting for bombs and missiles. In truth, argues Mr Martin, Stuxnet was the "Moon landing" of offensive cyber, an exquisite one-off that required superpower resources to execute rather than being a staple of cyberwars.

Nor is cyber "some magic invisible battlefield where you can do stuff you can't get away with normally", says Mr Martin. Not only is it difficult to cause severe harm to well-defended computer networks, but such attacks, contrary to conventional wisdom, would be "easily attributed". Cyber-offensives are not consequence-free. "Despite all the hype," notes Mr Martin, "Putin has not seriously troubled the West at all in cyberspace since the invasion."

Adjudicating these debates and drawing lessons will take time and perspective. Many intrusions may have gone unnoticed. An attack on the Lviv regional military organisation was caught only at a late stage, for example—and the Russian toolset went largely unnoticed by commercial security software. Detecting attacks is not a foolproof science, says one Ukrainian cyber-security official. Often, there is a legitimate login to the system, when someone's password is compromised. You only see symptoms, not cause. "It's like someone presents with a cough, or low blood oxygen. We only now know that it could be covid. Malware is similar. We rarely detect it when it penetrates the network, only when we see anomalies. In most cases, we catch things only some time in the middle."

One further point is that the most destructive cyber-operations, like Stuxnet, are actually most useful in peacetime, when missiles are off the table. In war, munitions can often do the job more easily and cheaply. Probably, the most important wartime cyber-activity, on both sides, is that aimed at intelligence gathering or psychological warfare rather than destruction.

A Ukrainian former politician in a position to know confirms that the most valuable contribution of the country's cyber-forces is extracting secrets, such as details of European companies that are violating American sanctions on Russia. "There are some other things I can't talk about, but it's pretty impressive work," he says. The Allied decryption of Germany's Enigma cipher machines in the second world war did not come to light until the 1970s. The ultimate impact of cyber-operations in Ukraine may remain obscure for years. ■

Cyberwar and cybercrime

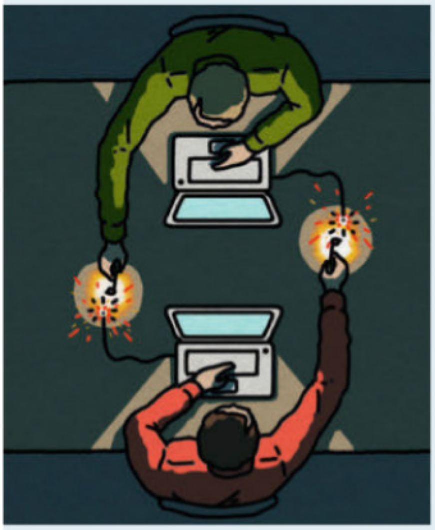
Black hats, white hats, grey hats

LVIV

The war in Ukraine has affected cybercriminals, too

Less extortion and theft, but more digital destruction. That is one of the ways in which the conflict in Ukraine is altering cybercrime. The shift, says Oleh Derevianko, chairman of ISSP, a Ukrainian computer-security firm, is striking. Recent years had seen a boom in the use of ransomware, which scrambles victims' computer data until a payment is made. Now, Mr Derevianko says, the number of such attacks on ISSP's corporate and government clients has dropped pretty-much to zero. Instead, many of those once involved in such enterprises seem to have been co-opted by Russia's government and are focusing on "wiping" computers to damage Ukraine's war effort by erasing whatever data they can reach (see adjacent story).

The same is true of attacks on Russian computers by Ukrainians, says Olga Khmil, a researcher at Molfar, an intelligence firm in Kyiv. Such hackers now care less about stealing money and "more about the damage they can cause to the aggressor".



This trend seems also to have spread beyond the borders of the countries involved. Resilience, a cyber-insurance firm in San Francisco, reports that prior to Russia's full-scale invasion, which began in February, claims involving ransomware were the third most common category. Now, says Vishaal Hariprasad, Resilience's boss, they are sixth or seventh.

Inflamed passions among hackers are but one reason for this. Guillermo Christensen, a partner in K&L Gates, a law firm in Washington that specialises in such matters, says that Russian government agencies have recruited cyber-thieves onto their staffs and told them to direct their energies into disabling Ukrainian infrastructure instead.

One hacker group over which the FSB, Russia's domestic security service, has gained notable control, is Conti, an infamous gang of ransomware extortionists. Such, at least, is the assessment of a hacker in Bangkok calling himself "the Grugq", who follows the action closely. Hours after Russian columns rolled into Ukraine on February 24th, Conti posted a statement offering "full support" for the invasion. "High emotions" in that and other groups, the Grugq says, sparked infighting and defections. Gangs soon repositioned themselves into pro-Ukraine and pro-Kremlin camps. Who says there is no honour among thieves?

Pollution and suicide

Ill winds

Contaminated air can drive people to kill themselves

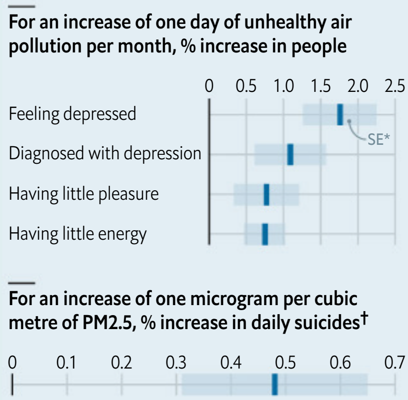
POLLUTED AIR is bad for your health. It increases the risk of strokes, heart disease and a list of respiratory illnesses. It is linked, as well, to low productivity at work and poor scores on academic tests. And pollution may have a yet-more-sinister effect. It may also promote suicide.

Claudia Persico and David Marcotte of the American University, in Washington, DC, examined suicides throughout America between 2003 and 2010. They looked for a link between these and aerial levels of fine particulate matter known as PM2.5 because its particles are less than 2.5 microns across. These can enter the bloodstream via the lungs. They hypothesised that poor air quality worsens people's moods, which in turn increases the likelihood of someone experiencing suicidal thoughts.

Suicide rates vary for many reasons, so the two researchers concentrated on correlating day-to-day changes in the number of suicides in particular places with fluctuating air-pollution levels caused by alterations in wind direction. In Boston, for example, north-easterlies blowing into the city from industrial areas bring air carrying around five micrograms per cubic metre more PM2.5 than westerlies from upstate Massachusetts. The researchers worked out these wind-related pollution patterns for every county in America, and matched them with daily suicide statistics.

Brain fog

US, air pollution and mental health, 2003-16



*Standard error †Survey data from 2003-10

Source: "Air quality and suicide", by C. Persico and D.E. Marcotte, NBER working paper, November 2022

Their analysis was published as a working paper by the National Bureau of Economic Research, in Cambridge, Massachusetts. It found that an increase of one microgram per cubic metre in PM2.5 in a given place was linked to an average rise in daily suicide rates of just under 0.5%, and if that increased level was sustained for a month, hospital admissions connected with attempted suicides rose by 50%.

An inflammatory conclusion

These results stood up even when controlled for temperature and cloud cover, which might feasibly affect mood and be related to wind direction. There was, however, geographical variation. Dr Persico and Dr Marcotte found that the impact of pollution on suicide rates was greatest in poorer counties, in those with more unemployment, and in those with liberal gun-ownership laws, since access to a firearm presumably makes it easier for a potential suicide to turn thought into deed.

To test directly the idea that poor air quality worsens mood they took data from surveys about mood and mental state and checked whether the answers were related to pollution levels in respondents' home towns in the month leading up to the survey. They found that even a single additional day in a typical month during which PM2.5 levels were above 35 micrograms per cubic metre was associated with a small but consistent increase in how often people reported they felt depressed, had little pleasure in doing things or were tired and lacked energy. They also found an increase of around 1% in the number who had been told by a doctor that they had depression.

Previous research has shown that PM2.5 pollution can cause an inflammatory response in organs, including the brain. Many researchers think inflammation disrupts normal operation of the brain's reward pathways, which help regulate mood. Consistent with this, some trials have found that anti-inflammatory drugs improve mood in those with depression. Other work, meanwhile, shows that such people have consistently higher concentrations than others of proteins called cytokines, released during inflammation, in their blood, and that suicide victims, examined after death, have high levels of inflammatory cytokines in their brains.

In America, average PM2.5 levels in populated areas are around twice the World Health Organisation recommended maximum of five micrograms per cubic metre. A study published in 2021 suggests meeting that figure might save 100,000 lives a year. In this context the 770 suicides which would, if Dr Persico and Dr Marcotte are correct, be avoided by this reduction are only a small extra saving. But suicide is such a tragic end to life that it would be a particularly welcome one. ■

A drug for Alzheimer's disease

Enter lecanemab

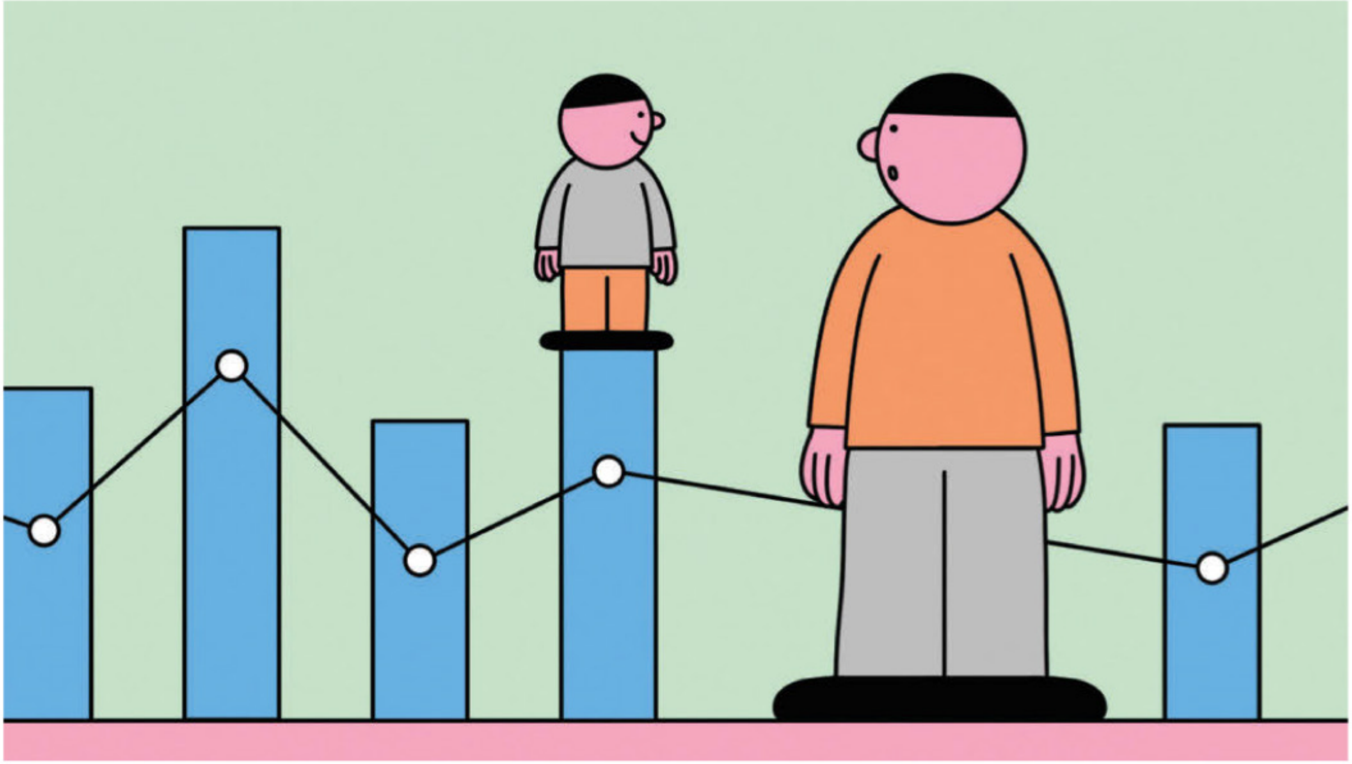
It is not perfect. And it has side-effects. But it may be the real deal

IT IS EASY to be cynical about announcements of drugs that claim to slow the progress of Alzheimer's disease, the most common form of dementia. Lecanemab, however, may be the real deal. Results of a clinical trial, conducted by its makers, Eisai, of Tokyo, and Biogen, of Cambridge, Massachusetts, have just been announced in the *New England Journal of Medicine*. After 18 months, it had slowed the progress of symptoms by a quarter.

The trial involved 1,795 participants who were, crucially, in the early stages of the illness. Half received the drug. The others, a placebo. It showed two things. One was that modest but measurable slowing of progression. The other was that an explanation of Alzheimer's called the amyloid hypothesis seems correct.

Beta-amyloid is a protein which accumulates in plaques in the brains of those with Alzheimer's. It, and a second protein, tau, are established signs of the illness. But whether either or both is a root cause of it has been much debated. The success of lecanemab, an antibody that attaches itself to beta-amyloid and then attracts immune-system cells which clear the protein away (and measurably did so in those receiving the drug), suggests beta-amyloid does indeed directly create problems associated with dementia.

This is a small first step. Some experts question whether the test used to show an improvement in symptoms is clinically meaningful. And lecanemab induced nasty side-effects—notably swelling and bleeding of the brain—in a number of participants. Also, diagnosing dementia this early is hard. Beta-amyloid can be detected by positron-emission tomography, but that requires a piece of expensive equipment. Or a sample of cerebrospinal fluid can be taken, which is unpleasant, and not something that could easily be turned into a routine screening programme. It is, however, a proof of principle. Now that the antibody approach has been shown to work, it can be followed up with other, similar, antibodies. Hope for more good news soon.



Technology and fairness

The algorithm's mercy

Many books focus on the problems of big data and artificial intelligence. Two new ones offer refreshingly positive solutions

The Equality Machine. By Orly Lobel. *PublicAffairs; 368 pages; $30 and £25*
Escape from Model Land. By Erica Thompson. *Basic Books; 256 pages; $30 and £20*

Two years ago, when Elinor Lobel was 16, a "smart" insulin pump was attached to her body. Powered by artificial intelligence (AI), it tracks her glucose levels and administers the right dose of insulin at the right time to keep her healthy. It is a miraculous innovation for diabetes sufferers and just one of myriad new ways that data and AI can help improve lives.

Books that decry the dark side of data abound. With menacing titles such as "Weapons of Math Destruction" and "Algorithms of Oppression", they suggest that there is much more to fear than fete in the algorithmic age. The public is duly alarmed; ditto policymakers. For instance, a proposed European Union directive may hold back some educational applications of AI, such as its use in marking exams.

But the intellectual tide may be turning. One of the most persuasive proponents of a more balanced view is Elinor Lobel's mother, Orly, a law professor at the University of San Diego. In "The Equality Machine" she acknowledges AI's capacity to produce skewed and harmful results. But she shows how, in the right hands, it can also be used to combat inequality and discrimination. "We need to cut through the utopian/dystopian dualism," she writes. "The goal should be progress, not perfection."

For example, women selling goods on eBay tend to receive less money than men for the same item. Apprised of that bias, the website can hide vendors' personal details until an offer is made, or alert them to higher prices in similar transactions. Meanwhile women looking for jobs are less likely than men to respond to postings that use military jargon such as "mission critical" and "hero". Textio, an AI firm, helps companies recruit female employees by scanning listings and recommending alternative language.

"The Equality Machine" buzzes with such examples, revealing a hidden world of coders, data scientists and activists who are working on the technical means to achieve ethical ends, not simply griping about AI's lapses. The book aptly describes the workings of various AI systems, but its main contribution is to reframe problems in constructive ways.

A tenet of privacy rules is "minimisation": collect and retain as little information as possible, especially in areas such as race, gender and sexual orientation. Ms Lobel flips the script, showing how in countless cases of medical diagnosis and treatment, as well as in hiring, pay and the legal system, knowing such characteristics can lead to fairer outcomes. For example, in the past American regulators did not track the performance of medical devices by the sex of patients, though an independent study suggested women experience twice as many deaths and injuries as men.

Ms Lobel's call to use more, not less, personal information challenges data-privacy orthodoxy. But she insists that "tracking differences is key to detecting disparities." She advocates a careful loosening of intellectual-property rules to provide ▸▸

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more transparency over algorithmic decisions. And she floats the idea of a sort of affirmative action in AI to support disadvantaged groups. For instance, an algorithm that serves adverts for highly paid jobs to men—because they mostly clinched such posts in the past—can be programmed to show them equally to women.

As Ms Lobel says, AI need not merely reproduce or entrench old biases. It can help expose them. And it is easier to fix an algorithm than it is to change people's minds.

The problems with algorithmic formulae are tackled in depth in "Escape from Model Land" by Erica Thompson of the London School of Economics. These statistical models are the backbone of big data and AI: if data is the input, algorithms are the tool and models are the product. They are everywhere, from e-commerce tips to economic and climate-change forecasts.

Yet rather like the full-scale map of an empire imagined by the writer Jorge Luis Borges, a perfect model of the teeming world will always be beyond reach. The task is to ensure that the abstractions correspond to reality as far as is humanly possible. "All models are wrong," runs a venerable saying. "Some are useful."

Model students

Ms Thompson focuses on a challenge she calls the Hawkmoth Effect. In the better known Butterfly Effect, a serviceable model becomes less reliable over time because of the complexity of what it is simulating, or because of inaccuracies in the original data. In the case of climate change, say, this might lead to a prediction for rising temperatures being out by a fraction of a degree. In the Hawkmoth Effect, by contrast, the model itself is flawed; it might fail to take full account of the interplay between humidity, wind and temperature. This sort of mistake can be much more misleading, and much harder to rectify.

The author calls on data geeks to improve their solutions to real-world issues, not merely refine their formulae—in other words, to escape from model land. "We do not need to have the best possible answer," she writes, "only a reasonable one." Before there is a statistical model, she notes, there is a mental version. Data scientists need self-awareness and empathy as well as mathematical skill.

Both these books exhibit a healthy realism about data, algorithms and their limitations. Both recognise that making progress involves accepting constraints, whether in law or coding. Ms Lobel calls on AI practitioners to remedy the technology's problems; Ms Thompson asks data scientists to be conscious of the choices and values in a model's design. Their reflections offer the basis for a constructive agenda. As Ms Lobel puts it: "It's always better to light a candle than to curse the darkness." ■

The history of Venice

In the doge house

An adoring tribute to a magnificent city is blind to its faults

La Serenissima. By Jonathan Keates. *Head of Zeus; 496 pages; £40*

Among the many beautiful illustrations in this book is a reproduction of Bonifacio Veronese's "Parable of Dives and Lazarus" (pictured), which hangs in the Accademia gallery in Venice. The woman playing a lute is thought to be Gaspara Stampa, among the saddest figures in literary history. Abandoned by her paramour, who went off to war and seems never even to have written to her again, she captured the pleasure and pain of love in what Jonathan Keates calls "one of the most potently expressive of all the great Renaissance sonnet sequences". It was published after her death in 1554 at the age of 31.

Veronese's canvas captures two themes that recur in this entertaining and erudite romp through the history of Venice. One is the role of women. After a stint as queen of Cyprus, for instance, Caterina Cornaro survived lethal dynastic machinations to preside over a court in Asolo, near Venice, which attracted some of the finest minds of the late 15th century. Influential female intellectuals have included Veronica Franco, a poet and courtesan, Sara Coppio Sullam, a writer and champion of Judaism, and more recently that most eminent of adopted Venetians, Peggy Guggenheim.

Another recurrent theme is the city's exoticism. In the painting, Stampa is reading a score held by an African boy—doubtless modelled on a slave, possibly one of the many who began life as a subject of the Ottomans or Mamluks and were captured at sea by Venetian mariners. For about a century and a half, Venice was part of the Byzantine empire. At least as early as the eighth century, its merchants were haggling in the markets of the Arab world. Over time it acquired an empire, the Stato da Mar, stretching from the Mediterranean to outposts on the Black Sea that gave it access to the western end of the Silk Road.

Some of the best-known paintings of Venice feature exotic animals and figures in turbans and robes. Modelled on a church in Constantinople, St Mark's Basilica is highly unusual among Italian cathedrals. Even today, Venice has unique global connections. Where else would you find an island community of Armenian monks?

Faced with recounting more than a thousand years of the city's rich and tangled history, Mr Keates has taken the understandable decision to just leave out the boring bits. Like a savvy gondolier with a boatload of the more intelligent sort of tourist, he steers from topic to topic, giving his readers enough information for a basic understanding of each before slipping down the next enticing cultural, political, military or diplomatic canal.

His love of the city radiates from every page. That is sometimes a drawback, for he is all too dismissive of his beloved's short-



The beauty and the horror

comings. Time and again, successive popes and sundry allies deplored what they saw as the city-state's amoral rapacity. And, indeed, the Venetians seldom let their much-vaunted faith stand in the way of profitable trade with the enemies of their fellow Europeans.

Mr Keates offers a long list of the goods that Venetian merchants brought back from their Black Sea colony of Tana, near the mouth of the Don. Yet he neglects the trade in slaves. Venice's deep involvement in the trafficking of human beings, also repeatedly deplored by the papacy—not least because many of the victims were sold to Muslims—gets a single page of text. In Venice itself, the author claims, slaves like the one in Veronese's painting were "looked after, protected and given the wherewithal to thrive in the outside world once set free". If so, it was after years of vulnerability to rape and flogging.

In similarly breezy fashion, he asserts that, in the Stato da Mar, "subject populations were content enough to become, by adoption, sons and daughters of St Mark, living in relative safety and public order." Tell that to the exploited, expropriated Cretans who revolted 27 times during the four and a half centuries of Venetian rule. As poor Gaspara Stampa would have agreed, love can be thrilling, but blind. ■

Ukrainian culture

Art against war

MADRID

Modernist art from Ukraine has defied both censorship and missiles

In the final room of "In the Eye of the Storm", an exhibition of Ukrainian Modernist art that opened this week at the Thyssen-Bornemisza museum in Madrid, hangs "Sharpening the Saws" by Oleksandr Bohomazov (a detail of which is pictured). A triumph of form and colour, it shows workmen preparing their elongated, jagged tools for the following day. Painted in 1927, its theme nodded to what would soon become the official Soviet artistic cult of Socialist Realism. But its mood is contemplative, almost abstract, rather than heroic and propagandistic.

Bohomazov, who taught at the Kyiv Institute of Art, had absorbed all the European vanguards, from Cubism to Expressionism, before developing his own visual language. His painting was to be both apogee and requiem for a remarkable artistic flowering in Ukraine in the first three decades of the 20th century, a burst of creativity that is celebrated in this exhibition. At its core are three dozen works from the



Technicolour glory

National Art Museum of Ukraine in Kyiv, augmented by others from the State Museum of Theatre, Music and Cinema Arts, the Thyssen itself and private collections.

A few familiar names crop up. Sonia Delaunay was born in Odessa but worked in France; Kazimir Malevich came from Kyiv but worked mainly in Russia. Still, most of the artists represented will be new to the public in the West. As well as Bohomazov they include Aleksandra Ekster, Anatol Petrytsky, Vadym Meller, who worked on costume designs for the theatre, and Mykhailo Boychuk, who founded a movement of Byzantine Revivalism. They formed part of fluid international networks with Russian and western European artists; but they also drew on Ukrainian traditions of folk and decorative arts that had endured under rule by the tsars and other outside powers.

The first world war and the Russian revolution set off upheaval in Ukraine. A bid for independence was swallowed in the Soviet conflict with Poland and the carnage of civil war. The Bolshevik victors at first encouraged the Ukrainian language and culture. But the 1930s were much harsher. Forced collectivisation led to an intentional famine in which around 4m people died.

And the commissars snuffed out the flame of artistic experimentation. From 1937 many of the works in this revelatory show were removed from Ukrainian museums and stored in a secret deposit. The artists were denounced as public enemies, "formalists" and "nationalists". Boychuk, his wife and several others were executed. Others disappeared into the gulag; some managed to move abroad.

Outside interest in their work revived in the 1960s. But "Russia appropriated their names", says Maryna Drobotiuk, the chief curator at the National Art Museum. Independent Ukraine has reclaimed them—yet now their work is once again under threat. These paintings, loaded on two trucks, left Kyiv on November 15th, a trip coinciding, as it turned out, with one of the war's heaviest missile strikes. They were held up at the Polish border for 12 hours after a stray missile landed on the other side. "We were getting more and more nervous," said Francesca Thyssen-Bornemisza, who launched a campaign to help Ukraine's museums and inspired the exhibition.

It has two aims. One is to showcase the richness of Ukrainian culture. "This exhibition will tell us what Russia is trying to destroy by war," Volodymyr Zelensky, Ukraine's president, said in a video message recorded for the opening. The second is to keep the works safe until the violence comes to an end. The show will travel to the Museum Ludwig in Cologne and then, if necessary, elsewhere.

That itinerancy will strike a chord in Madrid. During the Spanish civil war the Prado's most prized works were crated up and dispatched by truck, dodging air raids, to Switzerland. In 1937 the Spanish pavilion for the international exhibition held in Paris was an artistic outpost for a beleaguered republic. Its most famous exhibit was Picasso's "Guernica". Tragically the scenes of horror that he portrayed are being repeated. Bohomazov's saws have been replaced with weapons of war. ■

Icelandic fiction

Home truths

Animal Life. By Audur Ava Olafsdottir. Translated by Brian FitzGibbon. *Black Cat; 192 pages; $17. Pushkin Press; £9.99*

Every novel by Audur Ava Olafsdottir is a multifaceted gem, with a sparkle concealing dark hues and sharp edges. The Icelandic writer often charts the mixed fortunes of characters trying to keep their heads and find their feet in new surroundings. In "Butterflies in November" a luckless woman packs her bags and her goldfish for a road trip with a deaf-mute boy. In "Hotel Silence" a man goes to a war zone to die, but reconsiders. The heroine of "Miss Iceland" moves to Reykjavik and learns the hard way that hers is a man's world.

Those novels are all journeys of self-discovery. The author's latest book to appear in English tells a different story. Deftly translated by Brian FitzGibbon, "Animal Life" features a heroine who stays put in Iceland. This time the truths she uncovers are not about herself but rather a great-aunt whose work and views continue to

Johnson Rise of the cyborgs

The translator of the future is a human-machine hybrid

THIS FIRST paragraph can read a bit oddly. As an experiment, Johnson wrote it in English, and then ran it through Google Translate to turn it into French, before running it through the same process in reverse, to render it back to English.

But the prose is only slightly odd. The software has turned the original "may" into "can", which made the first sentence sound a little off. In the second, the original "has written" became "a écrit" in French, which was then translated as "wrote" in English—accurately, but with a small change in emphasis.

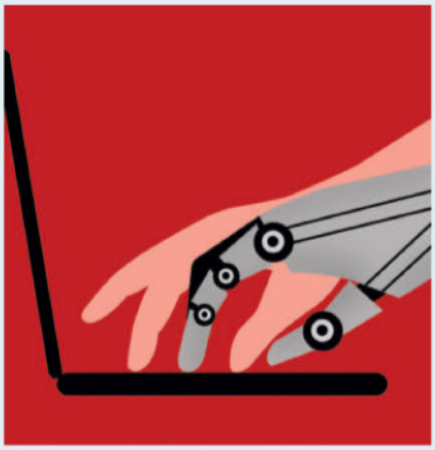
Once such round-trip translations were an endless source of humour. Some people took serious texts and put them through this two-way process yielding hilarious results. And bad computerised translation is hardly consigned to the past. "Chinglish" signs are still a source of amusement for English-speakers visiting the Chinese-speaking world. On one menu, sour black-eyed peas with snails becomes "acid fry cowpea screw meat". The joke cuts both ways: Westerners sometimes botch the Chinese characters in their tattoos.

Yet as Johnson's experiment shows, for most workaday purposes machine translation (MT) has got a lot better in the past five years or so. The biggest source of improvement has been the deployment of "deep learning" in training such systems, which are meant to mimic the action of a brain's neurons.

But improvement in automated translation for business purposes has also come about through a proliferation of clever companies solving individual tasks. Some have created specialist dictionaries so that important terms can be translated accurately and consistently. An entire MT engine can now be trained only on data from a professional domain (such as law or medicine), improving accuracy further. Other gizmos integrate MT with a human translator's editing tools. This means many of those humans spend most of their time checking and refining MT output, rather than doing the bulk of the translating themselves.

Being a machine's editor may sound depressing. For some translators, indeed it is. This can be seen the other way round, however. A human repeatedly translating identical formulae is in principle little different from a machine trained to do the same. Such work can be drudgery. Allowing the machine to do the easy bits—the chunks that are translated the same way, over and over—frees the translator to apply specialised linguistic and subject-matter knowledge, solving more intellectually satisfying problems.

What are those problems? One Madrid-based translator for a big law firm describes some recent tasks. One was finding a cultural example to replace a reference to a short story that is famous in Spain but little-known to English-speakers. Another involved catching a fairly fine-grained but critical distinction: a Spanish word (*dolo*) that is properly translated as "wilful misconduct", but which was translated only as "malice" by software. Since the law in question considerably magnifies penalties when the misconduct is "wilful", the omission was potentially disastrous—and could only have been caught by someone with the right combination of legal and linguistic nous.



That technology has upended translation is well-known. Many translators have been silently (and guiltily) relying on computers for years. What is newer is the willingness of translation firms, and individual translators, to be out and proud about using MT, not as a crutch but as a means to cut costs and turnaround times. Part of the job becomes knowing what can be automated and what cannot. Invoices and instruction manuals can be left to MT. Ditto, for the most part, contracts, which have lots of boilerplate language, so long as a human makes sure that slips like the *dolo* case above are avoided. A novel legal argument, says the translator in Madrid, needs to be almost entirely translated by hand.

This is not doable by someone who merely knows Spanish and English and took a few translation classes. The bad news for some translators is that a spigot of repeatable, easy work is being turned off. The good news is that what remains will be brain-challenging stuff for people who have a knowledge of a language and something else.

Tales of artificial intelligence usually pit humans against encroaching machines, "Terminator"-style. But the translators of the future will be neither entirely human nor machine. They will be human beings with mechanical enhancements. Call them cyborgs.

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resonate after her death.

Domhildur is a midwife—literally, in Icelandic, a "mother of light". There is a long tradition in her family of "handling people at their points of entry and exit": she is descended from four generations of midwives on her mother's side, while her paternal forebears have been undertakers. Christmas is coming but so is a terrifying storm. She takes refuge in the flat she inherited from her great-aunt and namesake, whose unconventional approach to midwifery has left a lasting mark.

Coming across her great-aunt's papers, Domhildur begins to piece together her life. She reads letters from a Welsh pen pal and reflects on the travels her relative made around Iceland. Old articles by the dead woman are full of prescient views on the effects of global warming. And in three disjointed manuscripts—one entitled "Animal Life"—she finds wonderment at the natural world coupled with waning faith in humankind.

This novel is more character-led than plot-driven. Domhildur consoles a grieving mother, bonds with an Australian tourist and takes stock of her sister's weather warnings. Much goes unsaid: the protagonist "almost became a mother", she says without elaborating. Some of the cast exhibit the author's customary quirks. Domhildur's colleague compiles a list of interesting tattoos spotted on patients; an electrician works with light because he is scared of the dark.

For the most part, though, Ms Audur Ava Olafsdottir reins in the strange foibles and zany antics. The result is a tranquil yet compelling meditation on life and death, darkness and light, from a reliably thought-provoking novelist. ■

Social housing

Heaven with the gates off

A chronicle of the dream and nightmares of Britain's council estates

A History of Council Housing in 100 Estates. By John Boughton. *RIBA Publishing; 272 pages; £40*



Visions of the future

THIS BOOK measures 25cm by 21cm. It is elegantly designed, with beautiful photographs printed on hefty paper. The publisher is the Royal Institute of British Architects, which also produces books such as "Inspired by Light" and "The New Country: City Style for Rural Living". It even smells nice. It is a lovely book on the distinctly unglamorous subject of British council estates.

And why not? At the peak, in 1981, fully 32% of English people lived in social rented accommodation—mostly in the form of houses and flats built by local councils. Even today, after four decades of mass council-home sales and very limited new building, they shape millions of people's lives. The 100 council estates described in John Boughton's book are not just places to eat and sleep, but domains with distinct cultures and reputations. To move from one council estate to another is not merely like moving from one road to another. It is more like moving to a different town, even a different country.

The inhabitants of council estates have experienced (or, it has sometimes seemed, been subjected to) some of the most important currents in post-war architecture. Despite a recent apartment-building boom, middle-class Britons tend to live in Victorian and Edwardian homes, or in more modern houses that look Victorian or Edwardian. By contrast, many council tenants have been shoved into modernist towers and bold Brutalist experiments. Dawson's Heights (pictured), an estate in south London, is a ziggurat. Duffryn in south Wales resembles a giant snake.

The earliest social homes were almshouses—institutions for the old and decrepit built by rich benefactors with an eye on their souls. By the late 19th century philanthropic groups like the Peabody Trust were putting up bigger estates. Then local governments started building, and soon made all previous efforts appear trivial. Spooked by Bolshevism, the authorities constructed huge numbers of houses for working-class people after the first world war. Some estates were as big as towns. The mostly two-storey Becontree estate in east London occupied four square miles and had a population of 112,570 when major works finished in 1934.

Early council tenants adored their homes, which had modern conveniences such as indoor toilets. One resident described the Becontree estate as "heaven with the gates off". They often paid steep rents for them. Councils tried to ensure that their new estates would be dominated by affluent workers; one was criticised as "dainty villas for already well-paid artisans". In their defence, councils argued that when successful workers moved onto new estates, their old homes became available to poor slum-dwellers. The theory was known as "filtering up".

Eventually, councils had to build homes for the truly poor. At that point council estates became architecturally bolder but frequently worse in every other way. After the second world war the vogue was for "system building"—assembling blocks of flats from prefabricated materials, often as cheaply as possible. Architects created walkways known as "streets in the sky", which they hoped would encourage neighbourliness. Instead they were haunted by muggers and vandals.

In 1966 Leeds City Council approved Hunslet Grange, a cluster of towers built from prefabricated materials. Richard Hoggart, a cultural historian who grew up there, called it "some of the worst, most crass and inhumane public housing I have seen in any developed country". Demolition of the estate began less than two decades after it was created. Another council tower, Ronan Point in London, was so badly constructed that it almost demolished itself following a minor gas explosion in 1968.

Mr Boughton casts a wide net, picking urban, suburban and rural estates. He includes many Scottish and Northern Irish projects; some of the latter are especially tragic. The Divis Flats in Belfast, completed in 1972, were poorly built and quickly squatted by Catholics desperate to escape sectarian violence elsewhere in the city. They became a Republican stronghold and the site of many deaths, with an army observation post on top of one of the towers.

Planners and architects sometimes built estates according to their own firm notions of working-class culture, and went badly wrong. Had they asked, council tenants would have told them their housing preferences were almost exactly the same as those of middle-class homeowners. As one resident of the Hulme estate in Manchester put it: "We wanted more houses than flats, gardens, lots of greenery and safe areas for children." Mr Boughton admires councils such as Norwich and the London borough of Camden, which tried to reconcile those traditional desires with the need to build densely and fairly cheaply.

He is a defender of council housing in general. Despite the disasters, he argues, the great British public building project of the 20th century improved many people's lives. That conclusion is debatable: estates can start out heavenly but end up concentrating poverty and reinforcing disadvantage. What is not arguable, however, is that British councils used to be far more powerful and ambitious when it came to housing their poorer inhabitants. This is an essential guide to a bolder, sometimes foolish, lost Britain. ■

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Economic data

	Gross domestic product % change on year ago latest		quarter*	2022†	Consumer prices % change on year ago latest		2022†	Unemployment rate %		Current-account balance % of GDP, 2022†	Budget balance % of GDP, 2022†	Interest rates 10-yr gov't bonds latest,%	change on year ago, bp	Currency units per $ Nov 30th	% change on year ago
United States	1.9	Q3	2.9	1.7	7.7	Oct	8.1	3.7	Oct	-3.5	-5.5	3.7	225	-	
China	3.9	Q3	16.5	3.3	2.1	Oct	2.0	5.5	Oct‡§	2.5	-7.1	2.7 §§	1.0	7.14	-10.8
Japan	1.8	Q3	-1.2	1.5	3.8	Oct	2.5	2.6	Oct	1.9	-6.3	nil	-8.0	140	-18.6
Britain	2.4	Q3	-0.7	4.4	11.1	Oct	8.0	3.6	Aug††	-5.9	-6.6	3.2	243	0.84	-9.5
Canada	3.9	Q3	2.9	3.1	6.9	Oct	6.7	5.2	Oct	1.6	-2.7	2.9	137	1.36	-5.9
Euro area	2.1	Q3	0.8	3.1	10.0	Nov	8.5	6.6	Sep	1.3	-4.3	1.9	224	0.97	-8.2
Austria	6.0	Q2	11.5	4.8	10.6	Nov	8.8	5.1	Sep	-0.7	-3.5	2.5	261	0.97	-8.2
Belgium	1.9	Q3	0.7	2.2	10.6	Nov	10.0	5.7	Sep	-1.2	-5.2	2.5	252	0.97	-8.2
France	1.0	Q3	0.7	2.4	6.2	Nov	6.0	7.1	Sep	-1.8	-5.4	2.6	260	0.97	-8.2
Germany	1.3	Q3	1.6	1.6	10.0	Nov	8.4	3.0	Sep	4.1	-4.1	1.9	224	0.97	-8.2
Greece	7.8	Q2	5.0	5.5	9.1	Oct	9.9	11.8	Sep	-6.3	-4.5	4.2	293	0.97	-8.2
Italy	2.6	Q3	1.9	3.7	11.8	Nov	8.7	7.9	Sep	-0.8	-5.9	3.9	289	0.97	-8.2
Netherlands	3.1	Q3	-0.9	4.6	14.3	Oct	12.4	3.7	Oct	6.0	-0.9	2.2	242	0.97	-8.2
Spain	3.8	Q3	1.0	4.4	6.8	Nov	9.2	12.7	Sep	0.2	-5.4	3.0	249	0.97	-8.2
Czech Republic	3.6	Q2	-1.6	2.0	15.1	Oct	15.7	2.2	Sep‡	-3.7	-5.1	4.8	219	23.6	-4.4
Denmark	3.3	Q3	2.1	2.8	10.1	Oct	7.9	2.6	Oct	9.0	0.9	2.1	220	7.22	-8.4
Norway	2.5	Q3	6.3	2.2	7.5	Oct	6.2	3.4	Sep‡‡	17.3	11.3	1.4	76.0	9.97	-8.6
Poland	4.5	Q3	4.1	5.0	17.4	Nov	14.6	5.1	Oct§	-3.3	-3.7	6.6	351	4.54	-8.8
Russia	-4.0	Q3	na	-3.6	12.6	Oct	14.0	3.9	Oct§	12.9	-2.8	10.2	188	60.9	22.1
Sweden	2.6	Q3	2.4	3.0	10.9	Oct	7.9	7.1	Oct§	3.7	-0.5	1.9	164	10.7	-14.9
Switzerland	0.5	Q3	1.0	2.0	3.0	Oct	3.1	2.1	Oct	5.5	-1.0	1.1	129	0.95	-2.1
Turkey	3.9	Q3	-0.5	5.0	85.5	Oct	74.1	9.9	Sep§	-7.8	-3.3	10.6	-960	18.6	-28.6
Australia	3.6	Q2	3.6	3.5	7.3	Q3	6.0	3.4	Oct	2.3	-1.7	3.5	184	1.49	-5.4
Hong Kong	-4.5	Q3	-10.0	-2.5	1.8	Oct	2.0	3.8	Oct‡‡	4.3	-6.4	3.6	214	7.81	-0.1
India	6.3	Q3	19.3	7.0	6.8	Oct	6.9	8.0	Nov	-2.5	-6.4	7.3	95.0	81.4	-7.7
Indonesia	5.7	Q3	na	5.0	5.7	Oct	4.5	5.9	Q3§	2.1	-3.9	6.9	61.0	15,732	-9.0
Malaysia	14.2	Q3	na	6.0	4.0	Oct	3.4	3.6	Sep§	1.6	-6.1	4.1	59.0	4.45	-5.4
Pakistan	6.2	2022**	na	6.2	26.6	Oct	19.8	6.3	2021	-4.4	-7.6	13.5 †††	175	224	-21.8
Philippines	7.6	Q3	12.1	7.7	7.7	Oct	5.4	5.2	Q3§	-4.2	-7.8	7.0	201	56.6	-10.9
Singapore	4.1	Q3	4.6	3.5	6.7	Oct	6.1	2.0	Q3	18.8	-1.0	3.1	137	1.37	nil
South Korea	3.1	Q3	1.3	2.6	5.7	Oct	5.2	2.4	Oct§	1.0	-3.2	3.6	143	1,319	-9.9
Taiwan	4.0	Q3	7.5	3.0	2.7	Oct	3.0	3.6	Oct	14.0	-1.4	1.5	94.0	30.9	-10.1
Thailand	4.5	Q3	5.0	2.8	6.0	Oct	6.0	1.2	Sep§	-1.2	-5.0	2.6	104	35.3	-4.5
Argentina	6.9	Q2	4.2	5.0	88.0	Oct	73.8	6.9	Q2§	-0.6	-4.4	na	na	167	-39.7
Brazil	3.2	Q2	5.0	2.7	6.5	Oct	9.3	8.3	Oct§‡‡	-2.4	-5.6	12.8	140	5.26	7.4
Chile	0.3	Q3	-4.6	2.3	12.8	Oct	11.6	8.0	Oct§‡‡	-8.1	-0.3	5.5	-28.0	896	-7.0
Colombia	7.1	Q3	6.4	7.6	12.2	Oct	10.1	9.7	Oct§	-5.6	-4.7	13.1	485	4,817	-16.8
Mexico	4.3	Q3	3.6	2.7	8.4	Oct	7.9	3.2	Oct	-1.0	-2.5	9.3	177	19.4	10.9
Peru	1.7	Q3	1.8	2.7	8.3	Oct	7.8	6.0	Oct§	-3.6	-1.5	7.8	184	3.85	5.5
Egypt	3.3	Q2	na	6.6	16.2	Oct	13.3	7.4	Q3§	-4.6	-7.4	na	na	24.5	-35.8
Israel	7.6	Q3	2.1	5.9	5.1	Oct	4.5	4.1	Oct	2.9	0.3	3.3	244	3.45	-8.7
Saudi Arabia	3.2	2021	na	8.9	3.0	Oct	2.5	5.8	Q2	13.5	3.5	na	na	3.76	-0.3
South Africa	0.2	Q2	-2.9	1.9	7.8	Oct	7.0	32.9	Q3§	-1.3	-5.5	10.3	49.0	17.0	-5.8

Source: Haver Analytics. *% change on previous quarter, annual rate. †The Economist Intelligence Unit estimate/forecast. §Not seasonally adjusted. ‡New series. **Year ending June. ††Latest 3 months. ‡‡3-month moving average. §§5-year yield. †††Dollar-denominated bonds.

Markets

In local currency	Index Nov 30th	% change on: one week	Dec 31st 2021
United States S&P 500	4,080.1	1.3	-14.4
United States NAScomp	11,468.0	1.6	-26.7
China Shanghai Comp	3,151.3	1.8	-13.4
China Shenzhen Comp	2,018.7	1.2	-20.2
Japan Nikkei 225	27,969.0	-0.5	-2.9
Japan Topix	1,985.6	-0.5	-0.3
Britain FTSE 100	7,573.1	1.4	2.6
Canada S&P TSX	20,453.3	0.8	-3.6
Euro area EURO STOXX 50	3,964.7	0.5	-7.8
France CAC 40	6,738.6	0.9	-5.8
Germany DAX*	14,397.0	-0.2	-9.4
Italy FTSE/MIB	24,610.3	0.1	-10.0
Netherlands AEX	724.1	0.4	-9.3
Spain IBEX 35	8,363.2	0.4	-4.0
Poland WIG	56,058.2	1.7	-19.1
Russia RTS, $ terms	1,125.1	-1.9	-29.5
Switzerland SMI	11,127.8	0.3	-13.6
Turkey BIST	4,977.6	2.5	168.0
Australia All Ord.	7,480.7	0.8	-3.8
Hong Kong Hang Seng	18,597.2	6.1	-20.5
India BSE	63,099.7	2.6	8.3
Indonesia IDX	7,081.3	0.4	7.6
Malaysia KLSE	1,488.8	3.1	-5.0

	index Nov 30th	% change on: one week	Dec 31st 2021
Pakistan KSE	42,348.6	-1.2	-5.0
Singapore STI	3,290.5	1.1	5.3
South Korea KOSPI	2,472.5	2.3	-17.0
Taiwan TWI	14,879.6	1.9	-18.3
Thailand SET	1,635.4	0.7	-1.3
Argentina MERV	168,525.3	6.3	101.8
Brazil BVSP	112,486.0	3.3	7.3
Mexico IPC	51,684.9	-0.6	-3.0
Egypt EGX 30	13,259.3	5.2	11.3
Israel TA-125	1,884.0	-0.8	-9.1
Saudi Arabia Tadawul	10,896.9	-0.6	-3.8
South Africa JSE AS	74,828.0	2.7	1.5
World, dev'd MSCI	2,720.9	0.9	-15.8
Emerging markets MSCI	972.3	4.3	-21.1

US corporate bonds, spread over Treasuries

Basis points	latest	Dec 31st 2021
Investment grade	158	120
High-yield	487	332

Sources: Refinitiv Datastream; Standard & Poor's Global Fixed Income Research. *Total return index.

Commodities

***The Economist* commodity-price index**

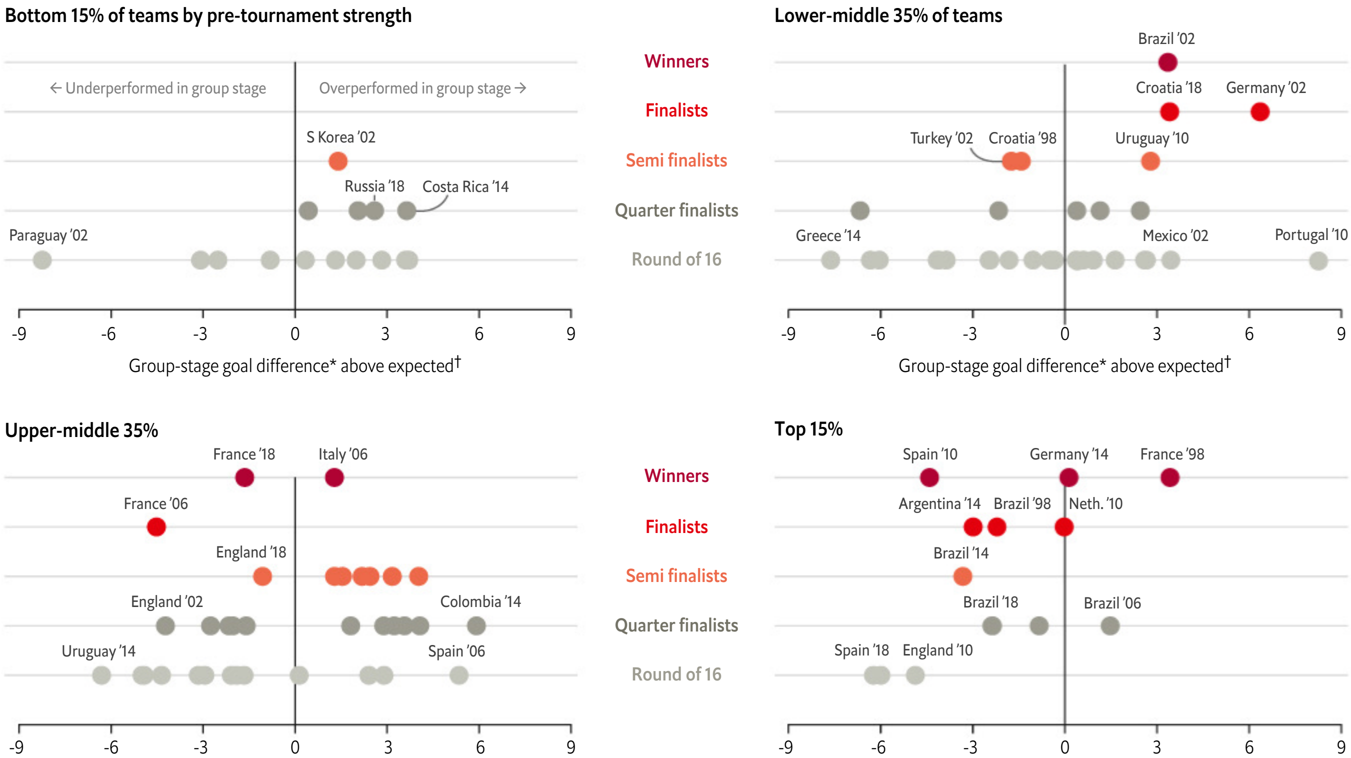
2015=100	Nov 22nd	Nov 29th*	% change on month	year
Dollar Index				
All Items	145.5	147.7	5.7	-2.1
Food	136.7	137.3	-2.3	3.8
Industrials				
All	153.6	157.3	13.2	-6.5
Non-food agriculturals	137.7	134.9	-0.8	-10.6
Metals	158.4	163.9	17.2	-5.4
Sterling Index				
All items	186.9	187.8	0.9	7.9
Euro Index				
All items	156.9	158.1	0.7	6.4
Gold				
$ per oz	1,744.3	1,753.2	6.6	-1.5
Brent				
$ per barrel	88.5	83.3	-12.0	13.5

Sources: Bloomberg; CME Group; Cotlook; Refinitiv Datastream; Fastmarkets; FT; ICCO; ICO; ISO; Live Rice Index; LME; NZ Wool Services; Thompson Lloyd & Ewart; Urner Barry; WSJ. *Provisional.

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→ Teams that exceed expectations in the group stage also tend to overperform in the knockout stage

Knockout stages of men's football World Cups, 1998-2018
Finishing position by difference in group-stage performance between opponents



*Gap between named team and average of teams it played against in knockout stage †Predicted scoring margin based on pre-tournament Elo rating Sources: World Football Elo Ratings; Kaggle; *The Economist*

Margins matter

The group stage bodes well for Spain's and England's chances

AMID A STEADY diet of 0-0 draws, this year's World Cup has also served up a few thrashings. England pummelled Iran 6-2, and Spain obliterated Costa Rica 7-0.

Supporters of the victors surely enjoyed such lopsided wins, but might downplay their significance. Should a bevy of goals against one weak opponent really change perceptions of a team's chances at a title? Our study finds that the answer is "yes".

National sides play rarely, forcing analysts to make do with scant data. Of England's nine matches (excluding friendlies) this year, three were in the World Cup—enough to justify re-evaluating the team.

But updating expectations using small samples requires careful adjustments. In the group stage, the average strength of a team's opponents varies widely. The Netherlands had a glide path to the knockout stage in 2022, facing two middle-ranking teams and Qatar, a weakling. In contrast, the deck was stacked against Costa Rica, whose group includes Spain and Germany.

To account for such disparities, we used Elo, a statistical team-rating system. For each group-stage match since 1998, we first calculated a predicted goal margin based on the sides' Elo scores entering the tournament. We then identified teams whose results exceeded these expectations.

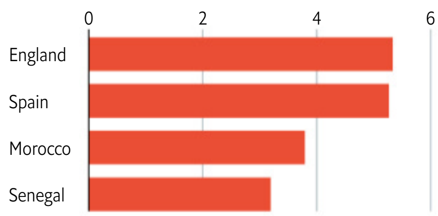
For example, in 2002 Germany had the ninth-best Elo score. Its group-stage rivals were eighth, 18th and 28th. Based on these ratings, Germany should have outscored its opponents by one goal in total. Thanks to an 8-0 drubbing of Saudi Arabia, it beat this benchmark by nine. In the knockout stage, Germany's rivals had also exceeded group-stage forecasts—but only by 2.6 goals, leaving a gap of 6.4 in the Germans' favour. They went on to reach the final.

This case reflects a trend. In the knockout stage, teams that have beaten predicted scoring margins in the group stage tend to overperform. Those with weak group-stage results often suffer early exits. In the round of 16 in 2018, Spain, ranked third in Elo, faced Russia, which was 28th. But Spain's group-stage scoring margin was two goals below expected. Russia's was four higher, a gap of six favouring Russia. Spain lost.

Although we tried predicting knockout matches with group-stage wins, losses and draws, we got more accurate forecasts using scoring margins. This means that it does indeed improve a side's estimated title chances more to win 7-0 than 2-1. Overall, we found that teams carry to the knockout stage about a quarter of their group-stage goal difference above expectation.

So far, England's and Spain's goal margins are both 5.3 above expected (Spain had one group-stage match left as *The Economist* went to press). This implies that they should beat Elo's knockout-stage forecasts by 0.45 goals per game—the gap between a solid side like Switzerland and a plausible champion like Portugal. This would elevate Spain to the level of Brazil, the favourite, and lift England into the top four. ■

World Cup 2022, goal difference above expected† in group stage, top four overperformers
To November 30th





An unlikely strongman

Jiang Zemin, China's party leader from 1989 to 2002, died on November 30th, aged 96

TALKING TO Mike Wallace on "60 Minutes" in 2000, wagging his finger—and with his ever-mobile face fixed, briefly, in a stare—Jiang Zemin quoted from the Gettysburg address. He had committed it to memory as a student activist, before the Communist Party came to power in 1949. "Government of the people, by the people, for the people, shall not perish from the earth," he said. His English was not great, but it brimmed with the confidence of a man who was delivering "for the people" all right: material progress on a scale and at a speed that history had not seen before. And it had started on his watch.

His own rise had been remarkable, too. In 1949 he was just an engineer in a food factory in Shanghai that had once produced one of China's most popular brands of ice-cream, "Beautiful Woman". (Appropriate, that, for a man who seldom missed a chance to eye up a pretty girl.) Had his skills not caught the attention of a visiting senior official that year, he might have stayed there. Instead he was groomed for leadership, at first in state-owned firms and then in politics. He seemed destined to be one of the "flower-vases"—all decoration, no action, just a low-key technocrat.

So it surprised him as much as anyone when he was appointed party leader in 1989, after the crushing of the Tiananmen Square protests. He was then an ordinary Politburo member, not a member of the innermost core. His selection looked like a compromise between the then-warring hardliners and reformists. He had shut down a liberal journal in Shanghai well before martial law was imposed in Beijing, so he was no soft touch on dissent. But as mayor and party chief of the city from 1985 to 1989, he also oversaw its awakening from the dark days of central planning.

Few expected this rumpled, unpredictable figure to last long in the hurly-burly of Beijing politics. In any case, it was clear after Tiananmen that Deng Xiaoping was the man who really called the shots. But Mr Jiang listened to Deng's critics too, which proved a mistake. In 1992 Deng publicly rebuked him, and he caved in, unleashing a wave of change.

For a while it became a free-for-all, with even government departments and the armed forces going into business. By 1994, with inflation soaring, Mr Jiang began hitting the brakes to stop the economy running out of control. But reform surged on. Tens of thousands of state-owned enterprises were closed down or sold, and millions of workers lost their jobs. In the late 1990s sweeping housing privatisation led to a huge transfer of wealth to urban households and the birth of a middle class.

In 2002, in a huge U-turn, he rewrote the rules to allow private entrepreneurs to be members of the party. When conservatives said it would mean the party's end, he closed down the journals they controlled. The press annoyed him in general; harassed once by reporters, he exploded that they were good at only one thing: "You always run faster than Western journalists."

A pink swimhat

His power was hidden behind comedy. Uniquely in China's ruling circle, he did and said whatever he thought. He would spice up diplomatic events by bursting into song: "Love Me Tender" with Fidel Ramos of the Philippines, or "O Sole Mio" at banquets. He once asked Condoleezza Rice to dance, and played the piano and the ukulele. His best-known affair, with a military singer, began when he passed her a slip of paper after a show: "Come and see your big brother when you're in need." Most famous was his public swim in Hawaii, in a pinkish-purple swimhat, which was unfavourably compared with Mao's Great Swim across the Yangzi. Netizens often portrayed him as a toad, mocking his portly physique, square spectacles and improbably high-waisted trousers. It was water off a toad's back.

Like Deng, he never really retired and remained far more influential behind the scenes than people realised. In theory he was succeeded in 2002 by Hu Jintao, a grey party apparatchik who lacked Mr Jiang's eccentric self-confidence. In practice, it was still Mr Jiang who really called the shots. He remained commander-in-chief of the armed forces for two more years after handing over his positions as party general secretary and state president to Mr Hu. Even after giving up his military title, too, his power eclipsed Mr Hu's. He would never let Mr Hu enjoy the most precious title accorded to him: that of being the "core" of the leadership.

He was still a strongman when Xi Jinping took over as China's leader in 2012. He would boast of the political battles he had won, the Western countries he had visited, the foreign languages he spoke and how he had "seen it all". His men still filled the Politburo. Under the pretext of waging war on corruption, Mr Xi attacked some of his closest allies, and in 2016 was declared the new core. At the age of 90, "the elder" became a political has-been.

The interview with Mike Wallace, "a comfortable laugh and a chat", remained a high point for him. He had told Mr Wallace that China had government "by the people", too—it was just "different" from America's. Many intellectuals in China privately scorned that notion: they wanted more than mere material progress. Workers laid off from state-owned enterprises could never forgive him for closing so many down. Even those who admired the reforms he oversaw usually (and with some justification) thanked others for them.

Above all, Mr Xi is unlikely to shed tears. To him, Mr Jiang's rule was a time of drift towards ruin, with the party eaten away by corruption and undermined by ideological laxity. Mr Jiang and Mr Hu had allowed it to disappear from most ordinary people's lives; Mr Xi has made it his mission to restore the party's centrality, and his own. His political world has had no room for elders such as Mr Jiang, carping from the wings. Staging his funeral will be politically complicated, in the midst of a surge in covid-19 and public discontent with lockdowns. But with Mr Jiang gone, Mr Xi will feel even more that this world is his. ■

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ECONOMIST IMPACT

Progress and profit

How consumer companies will scale sustainability through collaboration



Consumer-products firms and retail companies are taking sustainability and climate change more seriously than ever before. However, as they seek to profitably help deliver a sustainable future, these companies are increasingly realising that they cannot scale their efforts on their own. At the same time, the lingering effects of covid-19, the war in Ukraine and fears of a global recession have brought the interconnectedness and interdependence of global trade companies into sharp focus. The twin challenges of scaling sustainability measures while maintaining stability across globally dispersed operations have compelled consumer-products and retail companies to reassess resilience and sustainability—not only in their own organisations but also in their wider ecosystems where they want to thrive. Companies are realising that to scale up sustainability measures and produce material change, they must collaborate meaningfully not only with their peers, competitors and supply-chain partners, but with policymakers, consumers and other players in the ecosystem.

Senior executives face strategic questions in establishing collaborative relationships and increasing their sustainability efforts. In what part of their operations are companies seeking the most collaboration? What is the current level of maturity of companies' collaboration with other entities in the ecosystem? What are the most significant challenges companies face when collaborating on sustainability? What critical measures are needed to enhance collaborative activities in the next three to five years? Using insights from interviews with corporate leaders and a survey of 400 senior executives from some of the world's largest consumer-products and retail companies, Economist Impact answers these questions and considers how consumer companies can maximise their potential for future collaboration.

The twin challenges of scaling sustainability measures while maintaining stability across globally dispersed operations have compelled consumer-products and retail companies to reassess resilience and sustainability—not only in their own organisations but also in their wider ecosystems.

Read the full study here

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VICTORY IS A STATE OF MIND

LOUIS VUITTON